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Report to the Mississippi Legislature

2021 Update on Financial Soundness of the Public Employees' Retirement System

PEER: The Mississippi Legislature's Oversight Agency

The Mississippi Legislature created the Joint Legislative Committee on Performance Evaluation and Expenditure Review (PEER Committee) by statute in 1973. A joint committee, the PEER Committee is composed of seven members of the House of Representatives appointed by the Speaker and seven members of the Senate appointed by the Lieutenant Governor. Appointments are made for four-year terms, with one Senator and one Representative appointed from each of the U.S. Congressional Districts and three at-large members appointed from each house. Committee officers are elected by the membership, with officers alternating annually between the two houses. All Committee actions by statute require a majority vote of four Representatives and four Senators voting in the affirmative.

Mississippi's constitution gives the Legislature broad power to conduct examinations and investigations. PEER is authorized by law to review any public entity, including contractors supported in whole or in part by public funds, and to address any issues that may require legislative action. PEER has statutory access to all state and local records and has subpoena power to compel testimony or the production of documents.

PEER provides a variety of services to the Legislature, including program evaluations, economy and efficiency reviews, financial audits, limited scope evaluations, fiscal notes, special investigations, briefings to individual legislators, testimony, and other governmental research and assistance. The Committee identifies inefficiency or ineffectiveness or a failure to accomplish legislative objectives, and makes recommendations for redefinition, redirection, redistribution and/or restructuring of Mississippi government. As directed by and subject to the prior approval of the PEER Committee, the Committee's professional staff executes audit and evaluation projects obtaining information and developing options for consideration by the Committee. The PEER Committee releases reports to the Legislature, Governor, Lieutenant Governor, and the agency examined.

The Committee assigns top priority to written requests from individual legislators and legislative committees. The Committee also considers PEER staff proposals and written requests from state officials and others.

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May 10, 2022

Honorable Tate Reeves, Governor
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Honorable Philip Gunn, Speaker of the House
Members of the Mississippi State Legislature

On May 10, 2022, the PEER Committee authorized release of the report titled *2021 Update on Financial Soundness of the Public Employees' Retirement System*.

A handwritten signature in black ink, appearing to read "Kevin Blackwell".

Senator Kevin Blackwell, Chair

This report does not recommend increased funding or additional staff.

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2021 Update on Financial Soundness of the Public Employees' Retirement System

CONCLUSION: Based on the most recent experience study and the recommendations from PERS's consulting actuary, Cavanaugh Macdonald Consulting, LLC, the PERS Board adopted changes to the plan's economic, demographic, and other actuarial assumptions. Additionally, the PERS Defined Contribution Committee created the Self-Directed Brokerage Account to provide the Mississippi Deferred Compensation Plan and Trust (MDC) participants with the option to create a supplemental account within their MDC account with the ability to invest in mutual funds that are not available under MDC.

Background:

The Public Employees' Retirement System of Mississippi (PERS) is a defined benefit retirement plan for a majority of the employees (and/or their beneficiaries) of state agencies, counties, cities, colleges and universities, public school districts, and other participating political subdivisions. State law requires PEER to report annually to the Legislature on the financial soundness of PERS.

In addition to the PERS plan, Mississippi's public retirement system consists of five other retirement allowances and other benefits to Mississippi public employees and their beneficiaries.

The System is under the administration of the 10-member PERS Board of Trustees, which has a primary responsibility of ensuring adequate funding of the plans it administers. One way the Board accomplishes this task is by setting contribution rates for employers participating in the plan. For assistance in setting these rates, the PERS Board receives actuarial reports annually and works with independent actuarial advisers to develop comprehensive models that are used to project the financial position of the various plans. These models include components such as investment return assumptions, wage inflation assumptions, retirement tables, and retiree mortality tables.

Each of these components must work in concert with the others for the PERS plan to maintain financial soundness. Underperformance in any one area can cause additional stress on other components and can lead to underperformance of the PERS plan as a whole.

In addition to annual actuarial valuations and projection reports, the PERS Board biennially reviews the actual experience of the various plans to expected experience for reasonableness, and adjust, as necessary, the assumptions used.

This report also includes information about MCD's Self-Directed Brokerage Account.

Actuarial Soundness

The PERS Board, in consultation with its actuaries, develops an actuarial model based on such assumptions as projected investment returns, payroll increases, inflation, retirement ages, mortality rates, marriage rates, and accrued leave to project the plan's future assets and liabilities. Although the PERS Board sets plan assumptions based on biennial experience studies, the plan's actual experience (e.g., investment returns or mortality rates) is a product of environmental and demographic factors.

As a result of the most recent four-year experience study ending June 30, 2020, and in consultation with its actuary, the PERS Board voted to change all three assumptions for the plan. The PERS Board reduced the price inflation assumption from 2.75% to 2.40% (a reduction of 0.35%). Reflecting this assumption change, among other factors, the Board reduced the wage inflation assumption from 3.00% to 2.65% (a reduction of 0.35%). The Board also reduced the investment return assumption from 7.75% to 7.55% (a reduction of 0.20%).

PERS Economic Assumptions as of June 30, 2021

| Assumption | FY 2021 and Future Years | Rate Prior to FY 2021 |
|-------------------|--------------------------|-----------------------|
| Price Inflation | 2.40% | 2.75% |
| Wage Inflation | 2.65% | 3.00% |
| Investment Return | 7.55%* | 7.75% |

* In accordance with the PERS Board's funding policy, the investment return assumption was lowered 0.20% due to the plan experiencing specific investment returns during FY 2021. As a result of the most recent experience study, the current target rate for investment return was lowered to 7.00%.

Wage Inflation Assumptions

Over the past 5- and 10-year periods, the PERS actual average annual payroll increase has continued to remain below the actuarial model's projected rate of wage increase (currently assumed at 2.65%). Although the PERS Board adopted changes based on its most recent experience studies (as of June 30, 2012; June 30, 2014; June 30, 2016; June 30, 2018; and June 30, 2020), which help PERS's actuarial assumptions align more closely with actual experience, continued analysis of variation between actual and assumed wage growth is warranted.

Active and Retired Member Assumptions

From FY 2010 through FY 2020, the ratio of active members to retired members decreased by approximately 32%, driven by the increasing number of retirees and the decreasing number of active members. As a result of the decrease, the payroll of fewer active members must fund future pension obligations.

Differences between the Actuarially Recommended and Board-Adopted Long-Term Assumed Investment Rate of Return

The investment return assumption is used in the actuarial model to project the long-term perspective of investments in combination with the long-term perspective of the liabilities.

Based on the plan's most recent analysis of these data points, PERS's consulting actuary recommended lowering the PERS plan's investment return assumption from the previously **targeted** rate of 7.50% to 7.00% (a reduction of 0.50%). The PERS Board adopted this recommendation.

However, while the plan's actuary makes recommendations to the Board regarding what rates should be used for the investment return assumption, it is ultimately the responsibility of the Board to set the rate utilized.

For the FY 2021 valuation, the PERS Board reduced the **utilized** investment return assumption rate from 7.75% to 7.55% (a reduction of 0.20%). According to the amended funding policy, the plan's **utilized** investment assumption rate will be reduced until it reaches the **target** rate recommended by the actuary in the most recent experience study.

Sustainability

The PERS plan's funding policy defines several goals and objectives, including the maintenance of an increasing trend in the plan's funded ratio (over the projection period) with the target of a 100% funding level by 2047.

Based on the results of the evaluation metrics in the funding policy as of June 30, 2021, the plan has two metrics at green signal-light status (funded ratio and cash flow as a percentage of assets) and one metric at red status (ADC/FCR ratio).

PERS Funding Policy Metric Results as of June 30, 2021

| Metric | Result | Status |
|-------------------------------------|--------|--------|
| Funded Ratio (in FY 2047) | 93.5% | Green |
| Cash Flow as a Percentage of Assets | -5.65% | Green |
| ADC/FCR Ratio | 123.5% | Red |

Risk Management

As of June 30, 2021, the PERS funded ratio was 61.3%, an increase from 60.5% as of June 30, 2020. Primarily due to the greater-than-expected investment returns, the PERS plan has a projected future funded ratio of 93.5% as of 2047, which passes the assessment metrics outlined in the plan's new funding policy with a green signal-light status.

Investment Management

For FY 2021, the PERS plan's combined investment portfolio experienced a return of 32.71%. For FY 2021, the PERS Board of Trustees continued to adhere to the overall asset allocation model adopted in June 2015. This model continues to set investment-level targets for the PERS investment portfolio and to mitigate investment risks through diversification.

Update on Changes to the Mississippi Deferred Compensation Plan

The Mississippi Government Employees' Deferred Compensation Plan and Trust (MDC) is a voluntary government employees' deferred compensation plan sponsored by the State of Mississippi.

State law charges PERS with the oversight and administration of MDC, which the PERS Board accomplishes through its Defined Contribution Committee. Under its authority as the administrator of MDC, and with the assistance of its investment consultants, the PERS Board selects the investment options available within MDC and monitors the performance of plan management offerings.

The PERS Defined Contribution Committee created the Self-Directed Brokerage Account (SDBA) to provide MDC participants with the option to create a supplemental account within their MDC account with the ability to invest in mutual funds that are not available under MDC. Participants in SDBAs assume the responsibility, management, and risks associated with investing in these supplemental investment options.

SDBA investment options will initially be limited to mutual funds; however, as PERS continues to monitor the participation in MDC core investments and the SDBA, the PERS Board may consider additional options at a later time.

2021 Update on Financial Soundness of the Public Employees' Retirement System

Introduction

Authority, Scope, and Purpose

MISS. CODE ANN. § 25-11-101 (1972) directs the PEER Committee to:

...have performed random actuarial evaluations, as necessary, of the funds and expenses of the Public Employees' Retirement System and to make annual reports to the Legislature on the financial soundness of the system.

The PEER Committee, under the authority found in MISS. CODE ANN. § 5-3-51 (1972) et seq., carried out the statutorily required review of the financial condition of the Public Employees' Retirement System (PERS). Actuarial reviews authorized by MISS. CODE ANN. § 25-11-101 (1972) are discretionary.

This 2021 report includes an update on the financial soundness of PERS and an update on changes in program offerings by the Mississippi Deferred Compensation plan.

Method

To conduct this assessment, PEER:

- reviewed PERS's financial reports;
- reviewed actuarial reports, projections, and experience studies prepared for PERS;
- reviewed investment assessments prepared for PERS; and,
- interviewed personnel of PERS.

Background

Mississippi provides a retirement system for public employees overseen by an agency of state government that is responsible for the investment and administration of the benefit payment process.

This chapter will present:

- an overview of PERS; and,
- the composition and role of the Board of Trustees of the Public Employees' Retirement System (PERS Board).

Overview of the Public Employees' Retirement System

Under MISS. CODE ANN. § 25-11-101 (1972), the Legislature created a retirement system to provide retirement allowances and other benefits for officers and employees in the state's service and their beneficiaries. The PERS Board is responsible for the administration of PERS and for all other state retirement systems. For purposes of this report, the collection of these systems will be referred to as the "System."

Mississippi's retirement systems currently consist of seven types of plans or programs:

- The Public Employees' Retirement System of Mississippi (PERS) is a defined benefit¹ retirement plan for state agencies, counties, cities, school districts, and other participating political subdivisions.
- The Mississippi Highway Safety Patrol Retirement System (MHSPRS) is a defined benefit retirement plan designed exclusively for Mississippi Highway Safety Patrol sworn officers.
- The Mississippi Government Employees' Deferred Compensation Plan and Trust (MDC) is an Internal Revenue Service (IRS) Section 457(b)² voluntary government employees' deferred compensation plan.³
- Municipal Retirement Systems (MRS) are retirement plans created by 17 municipalities prior to the establishment of

¹ Defined benefit plans, the most prevalent type of plan used by public employers, pay retired employees, or their beneficiaries, a defined amount through a calculation based on the plan's benefits and the employee's salary and years of service.

² Plans eligible under IRS Section 457(b) allow employees of sponsoring organizations (state and local governments and some nongovernmental entities) to defer income taxation on up to \$19,500 (for calendar year 2021) of retirement contributions. Catch-up provisions allow for additional contributions depending on factors such as age, years to retirement, and previous year(s) contributing.

³ MDC is sponsored by the State of Mississippi and administered by the PERS Board. The PERS Board contracts with Empower Retirement (the nation's second-largest retirement services company) as a third-party administrator to perform recordkeeping and administrative functions.

PERS whose membership was closed. The administration and members of the plans were transferred to PERS in 1987.

- The Supplemental Legislative Retirement Plan (SLRP) is a separate plan designed to provide additional benefits to members of the Legislature and the President of the Senate. It is funded by employee and employer contributions in addition to contributions to the PERS plan.
- The Optional Retirement Plan (ORP) is a 401(a) defined contribution plan⁴ that certain teaching and administrative faculty at the state's universities can elect to join in lieu of becoming members of PERS.
- The PERS Board is also responsible for the administration of an optional retiree Medicare supplemental insurance program, the premiums of which are paid by the individuals who participate.

All assets, proceeds, and income of the System as defined here are held in trust (as provided for in Article 14, Section 272A in *THE MISSISSIPPI CONSTITUTION OF 1890*) for the exclusive purpose of providing benefit payments and refunds and providing for the System's administrative expenses. Assets of the System, excluding MDC and ORP, are invested collectively at the direction of the PERS Board of Trustees and its advisers. Assets of each member of MDC and ORP are invested at the direction of the member.

Composition and Role of the PERS Board of Trustees

Established in MISS. CODE ANN. § 25-11-15 (1972), the 10-member PERS Board of Trustees is responsible for the administration of the state's retirement system. In addition to administrative oversight provided by the PERS Board and staff, the Mississippi Highway Safety Patrol Retirement System is governed by its own administrative board.

Composition of the PERS Board of Trustees

The current membership of the PERS Board includes:

- the State Treasurer;
- a gubernatorial representative;
- two state employees;
- one municipal employee;
- one county employee;
- one Institutions of Higher Learning (IHL) employee;
- one public school/junior college employee; and,
- two retiree members of PERS.

⁴ The ORP is a defined contribution plan that has fixed employee and employer contributions. These contributions are the sole financial requirement of the employer.

Except for the State Treasurer and the Governor's appointee, all trustees are elected by the various constituency employee groups they represent (i.e., state, municipal, county, Institutions of Higher Learning, public schools, junior colleges, and retirees).

In addition to those members, state law provides for four legislative advisers to assist the PERS Board (two each from the Mississippi Senate and House).

The PERS Board establishes policies and procedures for the administration of the System in accordance with the laws governing the various benefit plans. This includes adopting rules and regulations necessary to implement those laws and comply with federal regulations.

Role of the PERS Board of Trustees

A primary responsibility of the PERS Board is to ensure adequate funding of the plans it administers. One means of accomplishing this task is by setting contribution rates for employers participating in the plans. For assistance setting these rates, the PERS Board receives actuarial reports annually and works with its actuarial consultants to create comprehensive models that are used to project the financial position of the various plans. These models include such factors as investment return assumptions, wage inflation assumptions, retirement tables, and retiree mortality tables.

In FY 2021, the PERS Board continued its contractual relationship with Cavanaugh Macdonald Consulting, LLC, a nationwide actuarial and healthcare consulting firm that works with state and municipal retirement systems in 26 states and Puerto Rico.

In addition to annual actuarial valuation and projection reports, the PERS Board biennially compares the actual experiences of the various plans to expected experience for reasonableness and adjusts, as necessary, the assumptions used. Information from the most recent study was presented to the PERS Board at its April 2021 meeting. For more information see pages 6 to 12.

The PERS Board also contracts with an investment consultant to conduct asset/liability studies, provide quarterly performance reports and economic updates, and assist the PERS Board and staff in establishing an asset allocation policy and selecting investment management firms. The PERS Board currently contracts with Callan LLC, one of the nation's largest independently owned investment consulting firms.

PERS Board members have a fiduciary duty to manage and invest the funds of the various plans for the exclusive benefit of the members and beneficiaries in the manner provided by law. MISS. CODE ANN. § 25-11-121 (1972) provides guidelines and limitations on the types of assets the PERS Board may use as investments for the PERS plan.

Update on Financial Soundness of the Public Employees' Retirement System

“Financial soundness” should be defined not as a point-in-time comparison of assets and liabilities but as a multifaceted construct involving an understanding of the role of actuarial soundness in judging financial health, a broadly defined view of affordability that encompasses sustainability in consideration of all relevant environmental conditions, and an understanding of the role of risk and investment management in the long-term financial health of the System.

The PERS Board has adopted and implemented policies and procedures that allow it to address the major areas that contribute to the PERS plan's⁵ financial well-being and to carry out its fiduciary responsibilities to its active members and retirees. These policies and procedures fall into the following areas:

- actuarial soundness and sustainability; and,
- risk and investment management.

This chapter will discuss each of these areas, highlight relevant activity and changes to the PERS plan for the past fiscal year, and discuss future projections.

Actuarial Soundness and Sustainability

“Actuarial soundness” and “sustainability” are two of the major components of financial soundness. The purpose of these two components should be to establish a system and actuarial assumption models that can be upheld and defended in view of all relevant environmental conditions, including contractual obligations involved and the potential economic consequences of abrogating those obligations.

Actuarial Soundness

The PERS Board, with assistance from its staff and other contractual advisers, endeavors to maintain the actuarial soundness of the plan by monitoring all components used in the PERS actuarial model. Among all continued analyses, the areas of wage inflation, active and retiree member assumptions, and investment return assumptions may require particular attention.

The PERS Board, in consultation with its actuaries, develops an actuarial model based on such assumptions as projected investment returns, payroll increases, inflation, retirement ages, mortality rates, marriage rates, and accrued leave to project the plan's future assets and liabilities. Although the PERS Board sets plan assumptions based on biennial experience studies, the plan's

⁵ For purposes of this report, the retirement plan statutorily created as the Public Employees' Retirement System will be referred to as the PERS plan or the plan.

actual experience (i.e., investment returns or mortality rates) is a product of environmental and demographic factors.

Variances in the actual experience of the plan compared to the model's assumptions have an impact on the plan's financial condition. Therefore, the PERS Board, with assistance from its staff and other contractual advisers, endeavors to maintain the actuarial soundness of the plan by monitoring all components used in the PERS actuarial model through quarterly updates on the performance of the plan's assets, annual actuarial updates, annual projections, and biennial experience reports.

Assumption Changes Based on the Most Recent Experience Study

The most recent experience study conducted by PERS's consulting actuary, Cavanaugh Macdonald Consulting, LLC, was completed for the four-year period ending June 30, 2020, and was presented to the Board at its April 2021 meeting. Based on the recommendations presented at the meeting, the PERS Board adopted changes to the plan's economic, demographic, and other actuarial assumptions at its August 2021 meeting. The Board elected to use the new assumptions effective July 1, 2021, and in the calculation of system liabilities for FY 2021.

Economic Assumptions

Because of its consulting actuary's most recent four-year experience study, the PERS Board adopted decreases to the plan's price inflation and wage inflation assumptions, and adopted the actuary's recommendation to reduce the plan's targeted investment return rate.

Economic assumptions seek to explain the overall environment in which the PERS plan will operate and estimate the environment's broad effects on the plan. The economic assumptions of the PERS plan model include factors for price inflation, wage inflation, and investment returns.⁶

As a result of the most recent four-year experience study ending June 30, 2020, the PERS Board voted to change all three assumptions for the plan. The PERS Board reduced the price inflation assumption from 2.75% to 2.40% (a reduction of 0.35%). Reflecting this assumption change, among other factors, the Board reduced the wage inflation assumption from 3.00% to 2.65% (a reduction of 0.35%).

While the Board voted to accept its actuary's recommendation to reduce the plan's investment rate assumption from 7.75% to 7.00% (a reduction of 0.75%), instead of immediately implementing the 7.00% investment rate, the Board will use this rate as a target rate to be implemented in the foreseeable future in accordance with the plan's funding policy. For more information, see pages 8 through

⁶ The investment return assumption is a combination of the price inflation and real rate of return assumptions and is reported net of investment expense (i.e., expenses and fees charged by the PERS Board's hired investment managers).

10. The Board implemented a utilized investment rate assumption of 7.55% for FY 2021 and future years.

Exhibit 1 on page 7 shows a breakdown of the economic assumptions both before and after the most recent changes.

Exhibit 1: PERS Economic Assumptions as of June 30, 2020

| Assumption | FY 2021 and Future Years ² | Rate Prior to FY 2021 |
|--------------------------------|---------------------------------------|-----------------------|
| Price Inflation | 2.40% | 2.75% |
| Wage Inflation | 2.65% | 3.00% |
| Investment Return ¹ | 7.55% ³ | 7.75% |

1) Net of investment expense.

2) The revised economic assumptions were also used in the valuation of system liabilities for FY 2021.

3) In accordance with the PERS Board’s funding policy, the investment return assumption was lowered 0.20% due to the plan experiencing specific investment returns during FY 2021. The target investment return rate was lowered to 7.00%. For more information, see page 18.

SOURCE: *State of Mississippi Retirement Systems Experience Investigation for the Four-Year Period Ending June 30, 2020*, Cavanaugh Macdonald Consulting, LLC, and PERS Funding Policy (revised on February 22, 2022).

Price Inflation

Based on the most recent experience study and its consulting actuary’s recommendation, the PERS Board voted at its August 2021 meeting to adopt a change to the price inflation assumption, lowering it from 2.75% to 2.40% (a reduction of 0.35%) for FY 2021 and future years. The purpose of the price inflation assumption is an attempt to address the effect that inflation has on the cost of living over time. In other words, this assumption tries to quantify exactly how much more it will cost to live in the future than it does today. The assumption for price inflation is important because the PERS Board and its actuary use it as a component in both the investment return and wage inflation assumptions.

In assessing the recommendation for price inflation, the PERS Board’s consulting actuary considered several factors, including historical rates over the past 50 years of the U.S. Department of Labor’s Consumer Price Index for the U.S. City Average and All Urban Consumers; information from fourth quarter 2020 “Survey of Professional Forecasters”;⁷ and the Social Security Administration’s Old Age, Survivor, and Disability Insurance (OASDI) trustee reports. Based on these factors, PERS’s actuary recommended lowering the assumption from 2.75% to 2.40% in the plan’s price inflation assumption.

⁷ The “Survey of Professional Forecasters” is a quarterly survey of macroeconomic forecasts in the United States, published by the Philadelphia Federal Reserve Bank.

As events subsequent to the Board's decision have shown, inflation and its effects on markets and the plan are not static. Continued analysis of the inflation environment and the plan's price inflation assumption is warranted.

Wage Inflation

Based on the recommendation of its consulting actuary, the PERS Board reduced the projected wage inflation rate from 3.00% to 2.65% (a reduction of 0.35%) at its August 2021 meeting.

The wage inflation assumption of the actuarial model accounts for projected salary growth over time. Salary growth is composed of two parts: the inflation component, which will be discussed in this section, and promotion or merit increases,⁸ which will be described in the "Demographic Assumptions" section on pages 10 through 12.

The inflation component is composed of the impact of inflation and the real rate of wage inflation,⁹ which seeks to account for the overall increases in the value of labor over time.

This assumption is important to the plan because accurate projection of future salary levels helps the PERS Board and its actuary estimate the amount of additional funds the plan can expect to receive from future employee and employer contributions.

To assess the real rate of wage inflation, the PERS Board's consulting actuary considered both real wage growth figures derived from historical information and future projections reported by the Social Security Administration. According to the historical information, real rates of wage growth have been 1.13% and 0.62% for the past 10 and 50 years, respectively. Additionally, the Social Security Administration projects a real rate of wage growth of approximately 1.14% per year.

Because of these real wage growth figures and future projections, continued actual lower-than-expected salary growth in the PERS plan, and the reduction in the plan's price inflation assumption, the PERS Board lowered the wage assumption from 3.00% to 2.65%. This was also the recommendation of PERS's consulting actuary.

Investment Return

In conjunction with the most recent experience study and the recommendation from its consulting actuary, the PERS Board initially voted at its June 2021 meeting, and finalized at its August 2021 meeting, to adopt 7.00% as the target rate for the plan's investment return assumption and 7.55% as the plan's utilized investment return assumption rate. Prior to this action, the plan's utilized assumption rate was 7.75%. However, unlike the changes

⁸ Merit increases refer to salary increases given for a defined goal (such as receiving additional certifications or training), for educational attainment (earning a new degree), or for longevity and promotion.

⁹ The real rate of wage inflation is the actual rate of inflation wages experience after the effects of price inflation are removed.

to the price inflation and wage inflation assumptions, reductions to the utilized investment assumption will occur based on parameters defined in the plan's funding policy and not solely on its actuary's recommendation. For more information on PERS's funding policy, see the PERS website.¹⁰

This assumption is designed to demonstrate the long-term perspective of investments in combination with the long-term perspective of the liabilities. The investment return assumption is used in the actuarial model to project the investment performance of the assets in the plan (i.e., what rate of return will current and future investments earn in the future) and to assign the rate at which expected benefits for active, inactive, and retired members will be discounted to the present,¹¹ which is important in the calculation of the System's unfunded actuarial accrued liability percentage (UAAL).¹² Changes in the investment assumption have the largest effect on PERS's UAAL; a lower investment assumption demonstrates a more conservative estimate of the future performance of the plan.

The investment return assumption is the sum of the real investment rate of return assumption¹³ and the price inflation assumption. When considering PERS's real investment rate of return assumption, the PERS Board considers the results of its actuarial advisers' forward-looking modeling system (calculations of estimated future investment returns of current and future investments), which are guided by the current market assumptions of the PERS Board's investment consultants and PERS asset allocation model that is set by the PERS Board. In addition to its actuary's forward-looking modeling system, the PERS Board considers the investment assumptions from forward-looking modeling systems of other state and local pension systems in the United States through the following sources:

- information provided by Callan's 2021 *Capital Market Projection* yielded a median real investment rate of return of 4.21%; and,
- information provided by Horizon Actuarial Services's 2020 *Survey of Capital Market Assumptions*¹⁴ produced a mean real investment rate of return of 5.19%. The mean return of the survey's 20-year projections was 5.15%.

¹⁰ <https://www.pers.ms.gov/Content/General/PERS%20Funding%20Policy.pdf>

¹¹ Given the effect of price inflation as discussed, if price inflation is less than 2.40% (the plan's current inflation assumption), a dollar today in the plan is worth more than it will be worth in future years. Conversely, if price inflation is more than 2.40%, a dollar today in the plan is worth less than it will be in the future. Discounting is the method used to determine how much future contribution and benefit payments are worth today.

¹² UAAL occurs when a pension system's current actuarial value of assets is less than the present value of benefits earned by retirees, inactive members, and current employees as of the valuation date.

¹³ The real investment rate of return is the return earned on investments after the effects of price inflation have been removed.

¹⁴ Horizon Actuarial Services, LLC, is an independent consulting firm specializing in providing actuarial and consulting services to multiemployer benefit plans. The 2020 *Capital Market Assumptions* report is a survey of 39 investment firms' outlooks on short- and long-term investment returns.

Based on analysis of these data points, PERS's consulting actuary recommended lowering the real investment rate assumption from 5.00% to 4.60% (a reduction of 0.40%).

To reflect both the recommendations of a reduction of 0.40% in the real investment rate assumption and the reduction of 0.35% in the price inflation assumption, PERS's consulting actuary recommended lowering the PERS plan's investment return assumption from its currently implemented rate of 7.75% to a targeted rate of 7.00% (a reduction of 0.75%).

The November 2021 *Public Fund Survey*¹⁵ reported the median investment return assumption of public pension plans in their databases as 7.25%.¹⁶

This recommended targeted investment rate of return of 7.00% is slightly lower than the median projected investment rate of return for other state and local pensions. According to the February 2021 National Association of State Retirement Administrators's (NASRA) issue brief: *Public Pension Plan Investment Return Assumptions*, overall projected investment rates of return have trended downward over approximately the past 18 years. The average investment return assumption for plans in NASRA's public plan database was 7.18% (with a median of 7.23%) for the FY 2021 period.

Due to the method adopted by the Board for recognition of the actuary's recommendations, it is imperative that the PERS Board and its consulting actuary continue to monitor the investment return assumption in future years to ensure that it accurately reflects market conditions and the PERS investment allocation model. For more information on the Board's method of recognizing and implementing its actuary's recommended changes to the plan's investment return assumption, see page 20.

Demographic Assumptions

After the most recent experience study, the PERS Board adopted changes to all of its demographic assumptions. The demographic assumptions of the model seek to explain the effects of retirements (service and disability), withdrawals, mortality, and salary increases on the plan.

The demographic assumption levels are based on subsets of the plan members, grouped by age, gender, and years of service. The purpose of a demographic experience study is to compare what happened to the membership of the plan during the evaluation period (the four-year period ending June 30, 2020) with what was expected to occur based on the assumptions used in the most recent actuarial valuations.

Detailed tabulations for each subset are performed for all active and retired members. If actual experience does not follow the

¹⁵ The *Public Fund Survey* is an online compendium of key characteristics of 119 of the nation's largest public retirement systems. The survey is sponsored by the National Association of State Retirement Administrators (NASRA).

¹⁶ The November 2021 *Public Fund Survey* is as of FY 2020.

expected results, new assumptions are recommended to better align PERS assumptions with actual experience.

For the PERS plan, the following demographic assumptions were used and evaluated:

- rates of withdrawal;
- pre-retirement mortality;
- rates of disability retirement;
- rates of service retirement;
- post-retirement mortality; and,
- rates of salary increase.

After the experience study for the period ending June 30, 2020, the PERS Board adopted changes to all of its demographic assumptions.¹⁷ A full version of the experience study may be found on the PERS website.¹⁸

As noted previously, each demographic assumption's values may be stratified by age, gender, and years of service. To provide an example of these changes, PEER elected to discuss the changes made to the rates of service retirements assumption.

Rates of Service Retirements

To more closely mirror the rates of service retirements¹⁹ experience of the PERS plan, the PERS Board approved its consulting actuary's recommended changes to the predicted rates of service retirements.

The PERS plan is a defined benefit plan that pays retired employees, or their beneficiaries, a defined amount through a calculation based on the plan's benefits and the employee's salary and years of service.

The number of service credits earned by an active member prior to his or her choice to terminate employment in a PERS-covered position, and the age at which the employee makes this choice, has a direct impact on the benefit payable to the member in retirement. Therefore, accurately estimating the plan's future liabilities associated with these benefit payments is essential.

Because predicting how long an individual will choose to work is impossible, the plan (and its actuary) has historically relied on the trends of the plan's existing members as an indicator of future active member behavior.

¹⁷ While the demographic assumptions used for rates of salary increase were changed because of the most recent experience study, these changes were due to the reduction in the overall wage growth assumption.

¹⁸ https://www.pers.ms.gov/Content/ExpStudies/PERS_Experience_Investigation_Report_2020.pdf.

¹⁹ Service retirements refer to the decision by an active member to terminate employment in a PERS-covered position and begin drawing retirement based on the number of service credits obtained. Active member retirements related to injury or inability to continue employment in a PERS-covered position are estimated through a different assumption.

For example, during the plan's most recent experience study, PERS's actuary found that the plan experienced 16,990 actual service retirements over the four-year period assessed. This amount is in excess of the 16,458 retirements predicted by the plan's assumptions for the same period. Breakdowns of expected and actual retirements, by year, are available in the most recent experience study that can be found on the PERS website.

Based on these findings, the plan's actuary recommended changes to all but one assumption group used by the plan to estimate future retirements. For more information on the recommended changes, see Exhibit 2 on page 12.

Exhibit 2: Comparative Rates of Retirement

| Age | Rates of Service Retirement [†] | | | | | | | |
|-----|--|----------|------------------------------|----------|---------------------------|----------|------------------------------|----------|
| | Males | | | | Females | | | |
| | Under 25 Years of Service | | 25 Years of Service and Over | | Under 25 Years of Service | | 25 Years of Service and Over | |
| | Present | Proposed | Present | Proposed | Present | Proposed | Present | Proposed |
| 45 | * | * | 22.50% | 25.00% | * | * | 18.00% | 21.00% |
| 50 | * | * | 15.00% | 19.00% | * | * | 13.00% | 14.50% |
| 55 | * | * | 18.25% | 18.00% | * | * | 19.00% | 19.75% |
| 60 | 10.50% | 11.25% | 19.50% | 19.00% | 13.25% | 13.25% | 22.25% | 21.50% |
| 62 | 20.75% | 21.00% | 32.00% | 29.00% | 19.00% | 18.75% | 37.50% | 34.00% |
| 65 | 25.00% | 25.50% | 29.50% | 32.00% | 29.25% | 30.00% | 42.50% | 42.25% |
| 70 | 20.00% | 19.50% | 25.00% | 26.00% | 24.00% | 23.00% | 25.50% | 30.00% |
| 75 | 100.00% | 22.00% | 100.00% | 24.00% | 100.00% | 21.50% | 100.00% | 25.00% |
| 80 | ** | 100.00% | ** | 100.00% | ** | 100.00% | ** | 100.00% |

† This chart represents all four tiers in the PERS plan. The rates and changes above are for service retirement in Tiers 1, 2, and 3; the above rates and changes are for Tier 4 as well, but instead of 25 years of service, Tier 4 requires 30 years of service for its members.

* Due to the statutory design of the PERS plan, non-service retirements are not possible for people under the age of 60.

** Prior to the recommendations of the most recent experience study the PERS plan assumed a 100% retirement rate after age 75. As such, no assumption was included for members aged 80.

SOURCE: State of Mississippi Retirement Systems: *Experience Investigation for the Four-Year Period Ending June 30, 2020.*

An additional retirement assumption was created for active members aged 80 and above. PERS's actuary commented that actual retirements in the existing 75 and older estimate were less than expected, demonstrating that more active members are working longer.

This type of analysis shows how demographic assumptions can be used to more closely align PERS's assumptions to its actual experience.

Differences Between Actual and Assumed Wage Inflation

Over the past 5- and 10-year periods, the PERS actual average annual payroll²⁰ increase has continued to remain below the actuarial model's projected rate of wage increase (currently assumed at 2.65%). Although the PERS Board adopted changes based on its most recent experience studies (as of June 30, 2012; June 30, 2014; June 30, 2016; June 30, 2018; and, June 30, 2020), to help PERS's actuarial assumptions align more closely with actual experience, continued analysis of variation between actual and assumed wage growth is warranted.

The wage inflation assumption is the estimate of the amount that PERS members' wages will increase annually in future years. This rate affects the projected amount of funds that are to be contributed annually for investments to meet and calculate the number of future plan liabilities. PERS receives employee and employer contributions²¹ from seven sources:

- state agencies;
- state universities;
- public school districts;
- community and junior colleges;
- counties;
- municipalities; and,
- other political subdivisions (e.g., water or sewer utility districts).

The wage inflation assumption is composed of the impact of inflation and the real rate of wage inflation, which work together to account for the overall increases in the value of labor over time. Currently, these components are 2.40% and 0.25%, respectively. Wage inflation figures can be affected both by changes in payments to an individual (e.g., wage increases resulting from pay or merit raises) and the payments to the total number of individuals (e.g., growing or shrinking workforces).

As a result of the most recent experience study, the PERS Board adopted changes that reduced the plan's wage inflation rate from 3.00% to 2.65% annually.²²

For the past five fiscal years (FY 2017 through FY 2021) and 10 fiscal years (FY 2012 through FY 2021), the PERS average annual payroll increase fell below the projected 2.65% annual rate of wage increase. For the past five fiscal years, the average annual payroll

²⁰ Annual payroll is a statistical figure reported in the PERS plan's annual valuation that represents the total combined wages paid to PERS members by PERS plan employers.

²¹ Each employee must contribute 9% of his or her salary to PERS, and his or her employer must contribute 17.40% of the employee's total salary to PERS.

²² Over the past 10-year period, the PERS Board's actuarial assumptions included an assumed growth rate of 4.25% from FY 2011 to FY 2014, 3.75% for FY 2015 and FY 2016, 3.25% for FY 2017 and FY 2018, 3.00% for FY 2019 and FY 2020, and 2.65% for FY 2021.

increase was 0.74%, and during the past 10 fiscal years the average annual payroll increase was 0.96%.

Exhibit 3 on page 15 presents the total payroll reported to PERS for fiscal years 2020 and 2021. As this exhibit indicates, for FY 2021 alone, PERS experienced a reduction in payroll of 0.66%, attributable to decreases in total payroll in state agencies, state universities, municipalities, and political subdivisions and to increases in total payroll in public schools, community/junior colleges, and counties. Also illustrated in Exhibit 3, wages of employees of state agencies, which represented approximately 17% of the PERS plan's total covered payroll, experienced a decrease of 3.48% for FY 2021. For context, for FY 2020 alone, PERS experienced payroll growth of approximately 2.32% with state agencies experiencing an increase of approximately 1.08%.

While PERS has experienced positive payroll growth in three of the last five fiscal years, as shown in Appendix A on page 34, each of these periods' results was below the rate of wage growth assumed by the PERS Board for the corresponding period.

As reported in *An Update on the Financial Soundness of the Mississippi Public Employees' Retirement System and Related Legal Issues: 2014* (PEER Report #591, January 5, 2015), PERS's actuaries stated that payroll growth (either through increases in existing wages or through the creation of new positions) that is less than expected can cause upward pressure on the amortization period attributed to the UAAL, which occurs when a pension system's current actuarial value of assets is less than the present value of benefits earned by retirees, inactive members, and current employees as of the valuation date.²³ However, the upward pressure on the UAAL may be partially or totally offset due to the decrease in the number of future liabilities resulting from a lower payroll amount than assumed in the actuarial model.

In addition, the November 2021 edition of the *Public Fund Survey* from NASRA states that when a plan's payroll grows at a rate less than expected, the base amount of funds used to amortize the plan's unfunded liability is smaller, meaning that the cost of amortizing the unfunded liability is larger. This is due to the fact that only part of the amount contributed to the PERS plan each year goes to the accrual of employee benefits. This component is called the normal cost.²⁴ The remainder of the contributions, which are not designated for the accrual of specific member future benefits, are held in the trust and utilized by the PERS plan to begin paying off the plan's UAAL.

²³ UAAL takes into consideration the expected investment return of present assets but does not consider future employee or employer contributions.

²⁴ Normal cost is the annual cost of providing retirement benefits for services performed by current members. This is a shared responsibility between the member and employer.

Exhibit 3: PERS Plan Payroll Growth (by Source) for FYs 2020 and 2021

| Payroll Source | Total Payroll | | Increase (Decrease) | Percentage Change |
|------------------------------|------------------------|------------------------|------------------------|-------------------|
| | FY 2021 | FY 2020 | | |
| State Agencies | \$ 1,076,040,014 | \$ 1,114,859,714 | \$ (38,819,700) | (3.48%) |
| State Universities | 996,451,048 | 1,020,096,503 | (23,645,455) | (2.32%) |
| Public Schools | 2,403,327,174 | 2,387,605,891 | 15,721,283 | 0.66% |
| Community & Junior Colleges | 300,434,410 | 299,391,280 | 1,043,130 | 0.35% |
| Counties | 572,143,978 | 520,773,382 | 51,370,596 | 9.86% |
| Municipalities | 595,147,054 | 600,155,657 | (5,008,603) | (0.83%) |
| Other Political Subdivisions | 302,533,163 | 344,559,040 | (42,025,877) | (12.20%) |
| Total | \$6,246,076,841 | \$6,287,441,467 | \$ (41,364,626) | (0.66%) |

SOURCE: PEER analysis of the *Report on the Annual Valuation of the Public Employees' Retirement System of Mississippi* as of June 30, 2021.

For example, for FY 2021, total contributions were 26.40% of covered payroll (9% employee contribution and 17.40% employer contribution). The normal cost for FY 2021 was 10.77% (9% employee and 1.77% employer). The remainder of the employer contribution, 15.63%, is added to the assets of the plan for use in paying down the plan's UAAL. Thus, for FY 2021, for every dollar of covered payroll, the PERS plan received approximately 15.63 cents to be invested to help pay down the plan's UAAL. When the plan experiences less payroll growth than anticipated, the 15.63 cents per dollar of the difference between anticipated and actual covered payroll is not deposited into the PERS trust assets and is not able to grow at the utilized rate of 7.55% annually. Over a 30-year period, assuming all other assumptions are met, this 15.63 cents would grow to \$1.39, an increase of approximately 766%.

Although the PERS Board has made changes to actuarial assumptions in the past, continued analysis of the difference between actual and assumed wage inflation is warranted. This is made more evident when PERS's experience is compared to the average experience of plans in NASRA's *Public Fund Survey*. The Survey's November 2021 report indicates that the median experience for plans in the Survey for FY 2020 was a positive change in annual payroll of approximately 3.19%, as compared to the PERS FY 2020 increase of 2.32%. In addition, the Survey indicates that the median annual payroll change has been above 2%

for the past five fiscal years, FY 2016 through FY 2020, while PERS's average wage growth over the same period was 1.27%.

Active and Retired Member Assumptions

From FY 2011 through FY 2021, the ratio of active members to retired members decreased by approximately 32%, driven by the increasing number of retirees and the decreasing number of active members. As a result of the decrease, the payroll of fewer active members must fund future pension obligations.

The PERS plan, and all other plans administered by the PERS Board, have three types of members: active, inactive, and retired (also referred to as a retiree).

Active PERS members are current employees who are contributing to the plan through monthly withholding from pay. As noted previously, employee contributions represent an important revenue stream to the plan. As they continue to work, active members accrue service credits that will be used in calculating their annual payment when they become eligible to receive retirement benefits. The plan accounts for the cost of these accruals (the normal costs²⁵) and funds them on a yearly basis through both employee and employer contributions.

Inactive members are members of PERS who are no longer working in any PERS-covered position and have not retired or received a refund of contributions. An inactive member retains his or her membership and the right to future benefits, either as a refund of contributions and interest or, if vested, as a deferred retirement benefit. The spouse and dependent children of a vested inactive member may be eligible for certain survivor benefits.

Retired PERS members are individuals who are no longer working in a PERS-covered position and have begun receiving payments based on their retirement calculations.

Each type of member is considered within the actuarial model of the plans; however, because liabilities associated with inactive members account for only 0.89% of the overall PERS plan's present value of future benefits, the ratio of active to retiree members is of primary importance. As shown in Exhibit 4 on page 17, the ratio of active to retiree members in the PERS plan decreased from 1.88:1 in FY 2011 to 1.27:1 in FY 2021, or approximately 32%.²⁶ The declining ratio is attributable to a decrease in the number of active members and an increase in the number of retiree members.

²⁵ Since 2013, PERS has included an estimated budgeted administrative expense in the calculation of the plan's normal cost. For FY 2021 an estimate of 0.28% of covered payroll was used in the calculation.

²⁶ The rate of decline in the ratio of active members to retired members between FY 2010 and FY 2020 was 33%.

Exhibit 4: PERS System Active and Retiree Members for FY 2011 through FY 2021 (in Thousands) *

| Member Type | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Active | 162 | 163 | 162 | 162 | 158 | 155 | 153 | 151 | 151 | 151 | 146 |
| Retiree | 86 | 90 | 93 | 96 | 99 | 102 | 105 | 108 | 110 | 112 | 115 |
| Ratio | 1.88:1 | 1.81:1 | 1.74:1 | 1.69:1 | 1.60:1 | 1.52:1 | 1.46:1 | 1.40:1 | 1.37:1 | 1.35:1 | 1.27:1 |

*Calculations are based on rounding to the nearest hundredth.

SOURCE: Public Employees' Retirement System of Mississippi.

Exhibit 5 on page 17 provides more detailed information about the decline in active employee membership specific to the PERS plan. While not every employer group has seen a decline in active membership, the overall effect is a lower number of active employees from FY 2020 to FY 2021.

Exhibit 5: PERS Plan Active Employee Change (by Employer) for FYs 2020 and 2021

| Employers | Active Employees | | Increase (Decrease) | Percentage Change |
|------------------------------|------------------|----------------|---------------------|-------------------|
| | FY 2021 | FY 2020 | | |
| State Agencies | 25,325 | 26,811 | (1,486) | (5.54%) |
| State Universities | 17,114 | 17,764 | (650) | (3.66%) |
| Public Schools | 60,108 | 61,308 | (1,200) | (1.96%) |
| Community & Junior Colleges | 5,959 | 5,978 | (19) | (0.32%) |
| Counties | 14,620 | 13,738 | 882 | 6.42% |
| Municipalities | 15,471 | 15,847 | (376) | (2.37%) |
| Other Political Subdivisions | 7,076 | 8,409 | (1,333) | (15.85%) |
| Total | 145,673 | 149,855 | (4,182) | (2.79%) |

SOURCE: PEER analysis of the *Report on the Annual Valuation of the Public Employees' Retirement System of Mississippi* as of June 30, 2021, and June 30, 2020.

As a result of the decrease, the payroll of fewer active members must fund future pension obligations, a factor made more important because contributions from active members and their employers comprise approximately 42% of PERS revenues (as of FY 2021).

While the PERS active to retiree member ratio has declined since FY 2011, the ratio of 1.35:1 at the end of FY 2020 was above the average ratio for other pension plans across the nation. According to the November 2021 *Public Fund Survey*, when examining the membership of the pension plans tracked by the database, the overall active to retiree ratio is 1.30:1 as of the end of FY 2020, the most recent nationwide information available. This indicates that PERS has a higher active member to retiree ratio compared to the average pension plan in the United States.

In addition, the *Public Fund Survey* observed that a lower ratio of active members to retiree members results in funding future obligations over a smaller payroll base, although a declining active member to retiree member ratio does not automatically pose an actuarial or financial problem. However, when combined with an unfunded liability, a low or declining ratio of actives to retirees can cause financial distress for a pension system provider.

With a maturing plan,²⁷ increasing retirements are expected, and the model attempts to account for these changes (see information about service retirement demographic assumption changes on pages 11 and 12). Although the PERS ratio of active members to retirees is above the national average, PERS's experience does differ from the average plan of the *Public Fund Survey*. PERS active membership has continued to decline, whereas the national average plan's membership has grown over the past six fiscal years (FY 2015 through FY 2020). As such, continued analysis of the assumptions for active and retiree members is warranted.

Differences Between the Actuarially Recommended and Board-Adopted Long-Term Assumed Investment Rate of Return

The PERS System's actuary recommends a long-term assumed investment rate of return based on historical investment returns and projections regarding future returns. The PERS Board considers the actuary's recommendation but, as governing authority of the PERS System, makes the final decision regarding the adopted long-term assumed investment rate of return used in the System's financial model which impacts the System's funding ratio and unfunded liability.

As highlighted earlier in this report, the investment return assumption is a metric used in the actuarial model to project and demonstrate the long-term perspective of investments in combination with the long-term perspective of the liabilities.

The plan's consulting actuary recommends an investment return assumption to the Board during its biennial experience studies.

²⁷ According to Zacks Investment Research, a maturing pension plan is a plan where the number of employees and retirees is approaching equality.

This recommendation is based on several factors such as forward-looking asset models created by the actuary, consideration of the investment assumptions of other state and local pension systems in the United States, and the plan's inflationary environment.

Based on the plan's most recent analysis of these data points, PERS's consulting actuary recommended lowering the PERS plan's investment return assumption from the previously targeted rate of 7.50% to a target of 7.00%. The PERS Board, at its August 2021 meeting, adopted the actuary's most current recommendation of 7.00% as the target for the plan's investment return assumption.

However, while the plan's actuary makes recommendations to the Board regarding what rates should be used for the investment return assumption, it is ultimately the responsibility of the Board to set the rate utilized.

The Board has created a funding policy for the plan which outlines the overall funding goals and objectives for the plan, and documents both the metrics that will be used to measure progress toward achieving those goals, and the methods and assumptions that will be employed to develop the metrics. For more information about the specific metrics utilized by the plan, see page 22.

In the plan's funding policy, the Board also outlines how it will consider and potentially implement any changes to the investment return assumption recommended by the plan's actuary. According to the amended funding policy, upon approval of the Board, the plan's investment assumption rate will be reduced until it reaches the rate recommended by the actuary in the most recent experience study. The specific parameters for this reduction are outlined by the funding policy which can be found in its entirety on PERS's website.

According to the PERS Board, this assumption change methodology was chosen because:

Decreases in the long-term investment assumptions are made at the same time asset gains are recognized, which helps lessen the overall impact of the assumption change on the liabilities and contributions requirements.

The Board's use of this methodology could be considered an attempt to address the financial health of the plan while potentially reducing the impact that a more aggressive adoption of the recommended rate of return would impose on the state and other PERS-covered employers. It is possible that if the Board fully implemented the actuary's recommendation and adjusted the investment return target rate in one single adjustment, such an action might cause the plan to fail one or more of its funding policy assessment metrics, which would necessitate the Board considering an increase to the plan's employer contribution rate.

Using this methodology, the PERS Board reduced the utilized investment return assumption rate from 7.75% to 7.55% for the Fiscal Year 2021 valuation.

While PERS's actuary did provide the methodology for assumption changes utilized by the Board in the PERS funding policy, the PERS Board's choice to utilize this methodology could continue to be a cause of concern. Selection of this methodology has delayed implementation of the assumption reduction and exacerbated the plan's lower-than-projected investment returns.

While adoption of any future changes under the current methodology may lessen the impact on the plan, any delays in the implementation of the new discount rate may cause any future needed adjustments, such as to the plan's employer contribution rate, to be larger than was first necessary.

Due to the method adopted by the Board for recognition of the actuary's recommendations, it is imperative that the PERS Board and its consulting actuary continue to monitor the investment return assumption in future years to ensure that the investment return assumption accurately reflects market conditions and the PERS investment allocation model.

Investment Return Assumption Reduction

During its August 2021 meeting, the PERS Board reduced the plan's long-term assumed rate of return from 7.75% to 7.55%, (a reduction of 0.20%). Because this reduction occurred the same year in which the PERS Board lowered its investment assumption rate target from 7.50% to 7.00% (a reduction of 0.50%), the PERS plan's investment return assumption is further from its targeted rate than it was at the end of the previous fiscal year. Due to the importance of this assumption and its use in the plan's estimates, investment returns below the Board's current long-term assumed rate of return of 7.55% could contribute to the PERS system not collecting the appropriate level of funds needed to meet future demands.

During its August 2021 meeting, the PERS Board finalized adoption of amendments to the plan's funding policy that were voted on at its June 2021 meeting. These amendments reduce the plan's long-term utilized rate of return from 7.75% to 7.55% (a reduction of 0.20%). The new rate will be used in the plan's annual valuation for the fiscal year ended on June 30, 2021 (and for all future years until the Board adopts a different long-term assumed rate of return).

This reduction in the plan's assumed long-term rate of return is in accordance with the plan's funding policy, which is structured to adjust the plan's long-term rate of return assumption over time until it reaches the rate recommended by the actuary in the most recent experience study.

For the fiscal year ended on June 30, 2021, the PERS plan's combined investment portfolio experienced a return of 32.17% (for more information see pages 26 and 27). This return represents an excess return of 24.42% for FY 2021.²⁸ According to the PERS plan's funding policy, a 12% (or greater) excess return will be used to lower the investment return assumption by 20 basis points (0.20%).

²⁸ Excess return is defined as return earned by the investment of plan assets in excess of return expected. For the fiscal year ended on June 30, 2021, the original investment return assumption was 7.75%.

While this change from 7.75% to 7.55% brought the plan's long-term assumed rate of return closer to its most recent targeted investment assumption rate of 7.00%, this reduction follows two years in which the PERS plan made no progress in lowering the long-term assumed rate of return.²⁹

Additionally, this reduction also occurred the same year in which the PERS Board lowered its investment assumption rate target from 7.50% to 7.00% (a reduction of 0.50%). Even with a reduction of 0.20% in the utilized investment return assumption, the PERS plan's adopted rate of anticipated investment return is further from its targeted rate than it was as the end of the previous fiscal year.

Because of the importance of investment gains as a source of revenue for PERS, experiencing lower-than-expected investment returns, either currently or in future periods, could be a source of stress on the plan. Additionally, this rate is also used in determining the present value of expected benefits for active, inactive, and retired members. Inaccuracy in these estimates could contribute to the PERS system not collecting the appropriate level of funds needed to meet future demands. As such, continued analysis of this assumption and the funding policy methodologies is warranted.

Sustainability

The PERS plan's funding policy defines several goals and objectives, including the maintenance of an increasing trend in the plan's funded ratio (over the projection period) with the target of a 100% funding level by 2047.

According to NASRA, a pension plan funding policy is a set of guidelines adopted by a pension plan that determines how much should be contributed each year by the employers and active participants to provide for the secure funding of benefits in a systematic fashion. The PERS Board continues to operate the PERS plan under the funding policy that was implemented during FY 2019. The plan's funding policy defines several goals and objectives, including contribution rate stability and the maintenance of an increasing trend in the plan's funded ratio (over the projection period) with the target of a 100% funding level. For more information on the PERS funding policy metrics, see Appendix B on pages 35 to 39.

Review of Funding Policy Metrics

Based on the results of the evaluation metrics in the funding policy as of June 30, 2021, the plan has two metrics at green signal-light status (funded ratio and cash flow as a percentage of assets) and one metric at red signal-light status (ADC/FCR). According to the funding policy, a red result means that the PERS Board must consider making changes to the employer contribution rate.

²⁹ For FY 2019 and FY 2020, PERS investment returns were 6.78% and 3.35% respectively.

Included in the policy are three metrics that will be utilized to track the plan's progress in achieving the funding goals and objectives set by the PERS Board and a course of action should any of these metrics fall below certain thresholds. These new metrics will be evaluated through the use of a "signal light" approach (green indicating goals and objectives achieved; yellow representing a warning that future negative actions may lead to a failure of the goals and objectives; and red suggesting that the Board must consider making changes to the employer contribution rate).

Based on the results of the evaluation metrics in the funding policy as of June 30, 2021, the plan has two metrics at green signal-light status (funded ratio and cash flow as a percentage of assets) and one metric at red status (ADC/FCR ratio³⁰). Exhibit 6 on page 22 illustrates the status of these three metrics as assessed through the annual valuation and projection report as of June 30, 2021. For more information on the funding policy metrics see Appendix B on pages 35 to 39.

Exhibit 6: PERS Funding Policy Metric Results as of June 30, 2021

| Metric | Result | Status |
|-------------------------------------|--------|--------|
| Funded Ratio (in FY 2047) | 93.5% | Green |
| Cash Flow as a Percentage of Assets | -5.65% | Green |
| ADC/FCR Ratio | 123.5% | Red |

SOURCE: *Report on Thirty-Year Projections of the Mississippi Retirement Systems*, prepared as of June 30, 2021.

Effects of Actuarially Smoothed Investment Gains on the PERS Plan

Due to the results of the PERS plan's forward-looking projections, which include the PERS plan recognizing additional actuarial gains of approximately \$5.31 billion in actuarially smoothed gains over the next four fiscal years, the plan's actuary did not recommend the Board consider an increase in the employer contribution rate, despite one of the plan's performance metrics having a red signal-light status for the period ended on June 30, 2021.

For the fiscal year ended on June 30, 2021, the PERS plan's funding policy metric assessing the ratio between the plan's ADC and its FCR reached a red signal-light status. According to the PERS funding policy, if any one metric is in the red signal-light status in conjunction with the annual valuation report and the projection report, the actuary will determine and recommend to the Board an employer contribution rate increase to consider that is sufficient enough to get all three funding policy metrics back into the green signal-light status.

³⁰ The plan's actuarially determined contribution (ADC) is the potential payment to the plan as determined by the actuary using a contribution allocation procedure that, if contributed consistently and combined with investment earnings, would be sufficient to pay promised benefits in full over the long term. The plan's fixed contribution rate (FCR) is the employer contribution rate set by the Board.

PEER notes that despite a red signal-light status for the fiscal year ended on June 30, 2021, PERS's consulting actuary did not recommend to the Board an employer contribution rate increase to consider that is sufficient enough to get all three funding policy metrics back into the green signal-light status.

PERS's actuary noted that it did not recommend the Board consider an increase in the employer contribution rate because of the results of its forward-looking projections.³¹ In PERS's annual valuation PERS actuary commented on this situation as follows:

The ADC/FCR ratio is in "Red Status" for the 2021 valuation and per the funding policy, the actuary should recommend an increase in the fixed contribution rate. However, the ADC/FCR ratio is projected to decrease closer to 100% over the next four valuations as the investment gains from the 2021 valuation are fully recognized. Therefore, there is no recommendation for an increase in the fixed contribution rate of 17.40% of annual compensation at this time.

The PERS Board adopted the accepted actuarial practice of "smoothing." Smoothing is the recognition of the actuary's annual evaluation of investment gains and losses over a five-year period. This method helps to reduce the impact of volatility due to market returns and allows calculation of key plan metrics to be based on a five-year period rather than on a one-year period, reducing the chance of large fluctuations in these figures.

In FY 2021, actuarially smoothed investment returns were approximately \$1.38 billion greater than the actuarially projected returns for FY 2017 through FY 2021. This figure includes the current year realization of investment gains from three of the past five fiscal years in the actuarial valuation of assets.

As a component of the actuarial smoothing from the FY 2021 valuation, PERS will recognize approximately \$1.33 billion in excess investment returns each fiscal year for FY 2022 through FY 2025.

In FY 2021, PERS's actuary provided information detailing the projected impact of the full realization of PERS investment gains from Fiscal Year 2021. See Exhibit 7 on page 24 for this information.

Exhibit 7 demonstrates the impact of recognizing all five years of excess gains from the FY 2021 investment returns, in addition to meeting all other PERS actuarial assumptions for those periods. The exhibit projects PERS's ADC/FCR ratio calculation moving from a red-light status result of 123.5% for FY 2021 to a yellow-light status of 100.9% for FY 2025.

³¹ As a component of its yearly review, the Board's actuary is contracted to produce a report looking at the plan's prospective future performance over the next 30 years in light of its current position and the hypothetical meeting of its actuarial assumptions.

Exhibit 7: PERS Projection Metrics Results for FYs 2021 through 2025

| Fiscal Year | Current Funded Ratio ¹ | Anticipated Accrued Liability Payment Period | ADC/FCR Ratio |
|-------------|-----------------------------------|--|---------------|
| 2021 | 61.3% | 51 Years | 123.5% |
| 2022 | 64.0% | 41 Years | 118.4% |
| 2023 | 66.5% | 34 Years | 113.3% |
| 2024 | 69.0% | 28 Years | 107.8% |
| 2025 | 71.9% | 23 Years | 100.9% |

1) For more information about the current funded ratio see pages 25 and 26.

SOURCE: *Report on Thirty-Year Projections of the Mississippi Retirement Systems*, prepared as of June 30, 2021.

Exhibit 7 also demonstrates the change in PERS's anticipated accrued liability payment period.³² As of June 30, 2021, the PERS anticipated accrued liability payment period was 50.9 years (an increase from 37.1 years in June 30, 2020).³³ The PERS Board's consulting actuary attributes the increase primarily to assumption changes made in conjunction with the plan's most recent experience study and the lowering of the plan's investment rate assumption. Elements that reduced the payment period include higher than expected investment returns and member mortality.

As highlighted in Exhibit 7, full recognition of the PERS investment gains from FY 2021 show a projected reduction in the plan's anticipated accrued liability payment period from the current 50.9 years for the year ended on June 30, 2021, to a projected 23 years for the year ending June 30, 2025.

For any projected funding level information to be accurate, all actuarial assumptions must be met exactly for all fiscal years forecasted. As past performance indicates, results can exceed or fall short of this mark, creating variability from the model.

Risk Management and Investment Management

Risk management and investment management should provide a framework for the structure that will control the plan's long-term risk environment and allow it a reasonable opportunity to collect or earn sufficient assets to meet its benefit obligations.

Risk management and investment management represent the other major components of financial soundness. These concepts are utilized to provide a framework for the structure that will manage the plan's long-term risk environment in ways that allow it a

³² The anticipated accrued liability payment period is the estimated length of time under current actuarial assumptions that is required to pay the unfunded actuarial accrued liability. An unfunded actuarial accrued liability occurs when the total of present value of future benefits associated with prior years' service and the present value of future administrative costs is greater than the actuarial present value of the system's current assets.

³³ PERS's anticipated liability payment period as of June 30, 2019, was 36.2 years.

reasonable opportunity to collect or earn sufficient assets to meet its benefit obligations.

Risk Management

As of June 30, 2021, the PERS funding ratio was 61.3%, an increase from 60.5% as of June 30, 2020. Primarily due to the greater-than-expected investment returns, the PERS plan has a projected future funding ratio of 93.5% as of 2047, which passes the assessment metrics outlined in the plan's new funding policy with a green signal-light status.

To determine the funding ratio, or funding level, of a plan, the current value of all projected future obligations of the plan (such as future pension payments) is calculated. In other words, the cost of all of the plan's future obligations is calculated in today's dollars. The total of the current value of future obligations is compared to the plan's assets on hand today and a funding ratio is derived.

The calculation of a plan's funding ratio is an accounting measure that quantifies the plan's ability to meet its projected future obligations based on service already performed with assets currently available. However, this measure, like most accounting measures, assesses the plan in a conservative manner and does not take into account such items as future investment gains and losses and/or loss of contributions from employees and participating employers. This measure also does not reflect the ability of the plan to meet its current obligations.

For FY 2021, the actuarial value of assets in PERS increased in relation to the actuarial value of its liabilities—from 60.5% in FY 2020 to 61.3% in FY 2021.³⁴ The relationship between these two valuations strengthened because actual experience varied from expected experience regarding investment returns and member mortality.³⁵ The actuarial gain on investments for FY 2021 was 12.47%, which represents the actuarial smoothing of gains and losses from FY 2017 through FY 2021.³⁶

According to projections prepared by the PERS's consulting actuary as of June 30, 2021, the plan's funding ratio was projected to be 93.5% by 2047, as compared to 67.6% reported in the FY 2020 projection reports.³⁷ The increase in the future funding level is due to greater-than-expected investment gains.

Although an 80% funding ratio is frequently cited as a measure of an adequately funded pension system, there is no industry statement or requirement for a pension plan's funding level to be at 80% to be defined as "healthy." Neither the Governmental Accounting Standards Board³⁸ or the American Academy of

³⁴ For the fiscal year ended on June 30, 2019, the PERS plan had a funding level of 60.9%.

³⁵ Member mortality refers to mortality estimates for pre-retirement mortality rates (both in-service and accidental) for members and post-retirement mortality rates for retirees and their beneficiaries.

³⁶ The PERS plan's actuarial gain on investments as of June 30, 2020, was 6.72%.

³⁷ For the period ended on June 30, 2019, the PERS plan's projected funding level in 2047 was 83.2%.

³⁸ The Governmental Accounting Standards Board is an independent organization that establishes standards of accounting and financial reporting for state and local governments in the United States.

Actuaries uses an 80% funded ratio to define a plan as financially healthy.

For any projected funding level information to be accurate, all actuarial assumptions must be met exactly for all fiscal years forecasted. As past performance indicates, results can exceed or fall short of this mark, creating variability from the model.

Investment Management

For FY 2021, the PERS plan’s combined investment portfolio experienced a return of 32.71%, and the market value of the System’s assets was approximately \$35.6 billion.

Having realized a return of approximately 32.71% in the PERS plan’s combined investment portfolio, the market value of assets increased from approximately \$28.2 billion to \$35.6 billion during FY 2021, an increase of approximately \$7.4 billion. As presented in Exhibit 8 on page 26, according to investment consultant Callan LLC, PERS’s investment performance for FY 2021 was above the current actuarial model’s utilized investment return rate of 7.55%, placing it above the median return for its peer group³⁹ of 26.66%. Additionally, PERS’s investment performance has exceeded its peer group median for each of the past 3-, 5-, and 10-year periods.

Exhibit 8: Comparison of PERS Investment Performance to Peer Group of Public Pension Plans with Assets of More Than \$10 Billion

| Category | FY 2021 | 3-Year Return | 5-Year Return | 10-Year Return |
|------------------------------|---------|---------------|---------------|----------------|
| PERS Return | 32.71% | 13.59% | 13.03% | 10.07% |
| Peer Group Median (midpoint) | 26.66% | 11.33% | 11.12% | 9.04% |
| PERS Percentile Rank | 7* | 8 | 3 | 3 |
| 25th Percentile* | 28.87% | 12.19% | 11.82% | 9.29% |
| 10th Percentile | 32.10% | 12.83% | 12.21% | 9.85% |

* In this example, 7th percentile means PERS outperformed 93% of peer group funds; 25th percentile means these returns were greater than 75% of peer group funds.

SOURCE: Callan LLC, Investment Performance Review as of June 30, 2020.

According to the February 2021 *NASRA Issue Brief: Public Pension Plan Investment Return Assumptions*, the median public pension annualized investment 10-year return for the period ending December 31, 2020, was 8.1% and the 25-year return was 7.8%.⁴⁰ Over the past 10 years, PERS’s investment return on assets

³⁹ The PERS peer group is composed of other nationally based large pension plans (plans having greater than \$10 billion in assets).

⁴⁰ At the time of publication of this report, the *Public Fund Survey* for the period ending June 30, 2021, had not been released.

averaged 10.07%. Investment returns ranged from 0.60% during FY 2012 to 32.71% during FY 2021. The volatility of the recent years' returns reinforces the principle of viewing investment returns over a long period and comparing long-term returns to investment return goals rather than focusing on a single year's returns or returns over a short period.

Historically, PERS's investment returns have averaged 8.25% over the past 15 years, 7.71% over the past 20 years, 8.14% over the past 25 years, and 8.74% over the past 30 years. PERS's investment returns have exceeded the median for other public pension plans for the past 10-year and 25-year periods.

Because investment returns are the largest piece of a pension's funding source, when actual returns fall below projections, over time the plan must rely on other sources (i.e., contributions) to provide for the difference, which could lead to decreases in the plan's assets.

Considering the importance of the investment return assumption, the PERS plan's actuary recommended lowering the target investment return assumption from 7.50% to 7.00% (a reduction of 0.50%). During its August 2021 meeting, the PERS Board lowered the plan's long-term utilized rate from 7.75% to 7.55% (a reduction of 0.20%). The new utilized rate will be used in the plan's annual valuation for the fiscal year ended on June 30, 2021 (and for all future years).

Even with these adjustments to the plan's assumption recommendations and funding policy, the PERS Board and its consulting actuary plan to continue to monitor the investment return assumption in future years to ensure that the investment return assumption accurately reflects market conditions and the System's investment allocation model.

Asset Allocation Model

For FY 2021 the PERS Board of Trustees continued to adhere to the overall asset allocation model adopted in June 2015. This model continues to set investment-level targets for the PERS investment portfolio and to mitigate investment risks through diversification.

The PERS independent investment consultant periodically performs an asset/liability allocation study that considers projected future liabilities of the System, expected risk, returns of various asset classes, and statutory investment restrictions. For FY 2021, the PERS Board continued to adhere to the overall asset allocation model adopted in June 2015. The asset allocation model determines the mix of asset classes in which PERS will invest and the overall weight of each asset class within the whole portfolio.

The PERS Board and PERS staff use this model to mitigate investment risk through diversification and to establish risk and rate of return expectations for the adopted target asset allocation mix. On a quarterly basis, the PERS Board and its staff, in consultation with its investment advisers, review the performance

of each investment manager relative to the asset class’s target performance level.

Exhibit 9 on page 28 presents the actual FY 2021 investment allocation compared to PERS’s overall asset allocation model. PERS’s assets are being invested in accordance with the asset allocation model. Instances in which current investment levels do not agree with the model do not automatically constitute a cause for alarm or present the need for an immediate change in investment levels. The investment model represents targeted investment levels designed to prevent the investment portfolio from becoming too heavily weighted in a certain investment type. Market conditions may, at times, cause a prudent manager to call for slight departures from target goals. For these reasons, the PERS Board monitors investment performance, strategies, and weights throughout the year and manages the investment portfolio based on input from professional money managers, advisers, and its professional staff.

Exhibit 9: PERS FY 2021 Actual Asset Allocation Compared to PERS Overall Asset Allocation Model

| Year | U.S. Equity | Non-U.S. Equity | Debt Investments | Real Estate | Private Equity | Global Equity | Cash |
|---------|-------------|-----------------|------------------|-------------|----------------|---------------|------|
| Model | 27% | 22% | 20% | 10% | 8% | 12% | 1% |
| FY 2021 | 27% | 22% | 19% | 9% | 10% | 12% | 1% |

SOURCE: Callan LLC, Investment Performance Review as of June 30, 2021.

During the 2022 Legislative Session, the PERS Board sought legislative approval to amend the law that governs the plan’s available investment options. According to PERS staff, this request for approval was sought:

Based on the recommendation of investment consultants and staff after an extensive asset and liability study, PERS would like the flexibility to consider allocating assets to private credit, private infrastructure, or other investments not specifically authorized in statute. The flexibility provided with this expansion of the basket clause would possibly achieve greater returns while mitigating risk by providing additional diversifiers to the portfolio.

In response to this request, the Legislature passed House Bill 252 during the 2022 Legislative Session extending the “basket clause”

of PERS investment authority from 10% to 20% of the total book value of system assets.⁴¹

The PERS Board has not enacted any changes to the PERS asset allocation at the time of this report, but did state:

Based on guidance and recommendations from PERS' staff and its investment consulting firm, the Board would carefully consider the proper allocation to these areas as well as the selection of new investment managers. If passed and signed into law, this does not mean the actual allocation would increase automatically to 20%. Rather, this is just the first step to provide the opportunity for PERS to consider the additional asset classes.

In addition to PERS's efforts to mitigate investment risk for plan assets through asset diversification, the PERS Board's decision to utilize numerous investment managers also minimizes investment risk, as it prevents a large portion of plan assets from being under the management of any one investment manager. For FY 2021 the PERS Board had investment management contracts with 54 managers (including one that was hired and one that was terminated in FY 2021) and paid management fees to 52 investment managers. PERS paid \$110 million to investment managers on PERS plan assets of \$35.6 billion, a combined investment management expense rate of 0.31% (the expense rate for the fiscal year ending June 30, 2020, was 0.35%).

As of June 30, 2021, Harding-Loevner LP, a manager in the global equity sector, had the most assets under management as a percentage of the total portfolio by any one active investment manager⁴² with 3.48% (approximately \$1.24 billion of the PERS plan's \$35.6 billion in assets).

For more information on investment management fees, see Appendix C on pages 40 and 41.

⁴¹ The "basket clause" is a catch-all term used to describe provisions within PERS's investment authority that grant the PERS Board the ability to invest plan assets in investments not specifically authorized by other areas of the plan's investment directive. These assets must be in the form of a separate account managed by a Securities and Exchange Commission registered investment advisory firm retained as an investment manager by the Board or a limited partnership or commingled fund approved by the Board.

⁴² Active investment management refers to a portfolio management strategy by which the manager uses various investment research approaches, models, and systems to select the fund's specific investments with the goal of outperforming the fund investment's benchmark index.

Update on Changes to the Mississippi Deferred Compensation Plan

The Mississippi Government Employees' Deferred Compensation Plan and Trust (MDC) is a voluntary government employees' deferred compensation plan sponsored by the State of Mississippi.

This chapter provides an overview of the following:

- MDC;
- the administration oversight of MDC; and,
- the creation of the Self-Directed Brokerage Account.

Overview of the Government Employees' Deferred Compensation Plan and Trust

In 1973, the Legislature created the Government Employees' Deferred Compensation Plan and Trust, later codified in MISS. CODE ANN. § 25-14-1 (1972) et seq., as a supplementary, state-sponsored, voluntary deferred compensation plan for employees of various state and local government entities.

In 1973, the Legislature passed the Government Employees' Deferred Compensation Plan Law, later codified in MISS. CODE ANN. § 25-14-1 (1972) et seq., as the Mississippi Government Employees' Deferred Compensation Plan and Trust (MDC). MDC is a supplementary,⁴³ state-sponsored, voluntary, deferred compensation plan open to employees⁴⁴ of various state and local government entities.

State law mandates that MDC be operated in accordance with guidelines established by the IRS. Because MDC is for employees of various state and local government entities, it falls under regulations established in IRS Section 457(b).

Under MISS. CODE ANN. § 25-14-5 (1972), the Legislature grants the right for these employees, and some employers, to make contributions MDC by stating:

The State of Mississippi, or any state agency, county, municipality or other political subdivision may, by contract, agree with any employee to defer, in whole or in part, any portion of that employee's income, and a county, municipality or other political subdivision, except community and junior college districts, may make contributions to the plan on behalf of actively participating members on a uniform basis through an employer contribution agreement as provided for in the Mississippi Deferred Compensation Plan and Trust Plan Document if

⁴³ MISS. CODE ANN. § 25-14-11 (1972) outlines the supplementary nature of the MDC plan.

⁴⁴ For the purposes of this chapter, the term "employee" means any person, whether appointed, elected, or under contract, providing services for the State of Mississippi, state agencies, counties, municipalities, or other political subdivisions, for which compensation is paid.

making the contribution does not conflict with any other state law.

As highlighted in the CODE section above, counties, municipalities, and other political subdivisions (excluding community and junior colleges) may also make contributions on behalf of their employees to MDC, within the guidelines established by the IRS.

See Appendix D beginning on page 42 for more information regarding participation in MDC.

MDC Oversight and Administration

State law charges PERS with the oversight and administration of MDC, which the PERS Board accomplishes through its Defined Contribution Committee. Under its authority as the administrator of MDC, and with the assistance of its investment consultants, the PERS Board selects the investment options available within MDC and monitors the performance of plan management offerings.

The PERS Board administers Mississippi's sponsored deferred compensation plan through the authority granted under MISS. CODE ANN. § 25-14-5 (1972) which states:

...in the administration of this plan, the Public Employees' Retirement System of Mississippi may adopt such regulations as are reasonable and necessary to assure the orderly functioning of the plan, but those regulations shall not unreasonably restrict all licensed life underwriters and insurance companies described in this section from concurrently participating in providing contracts authorized under this section.

While MDC has been the responsibility of the PERS Board since its inception, the PERS Board created the Defined Contribution Committee (by Board resolution effective August 24, 2009) to provide additional oversight to MDC and its components. This committee handles all aspects of the oversight of MDC including development and periodic review of MDC's Investment Policy Statement and Plan Document. The PERS Board uses these documents to summarize the underlying purpose and the processes used to administer the investment-related aspects of MDC and to provide policies and procedures for the implementation and administration of MDC.

As the entity responsible for MDC, the PERS Board is ultimately responsible for the selection of options provided in MDC. Because individual members of MDC direct the investment of its contributions, and because individual participants have differing investment objectives, time horizons, and risk tolerances, MDC offers a wide spectrum of investment choices.

Investment options offered within MDC undergo a vetting process similar to the selection of investments for the PERS plan itself, with MDC's investment consultant, Callan LLC, vetting potential options and assisting the PERS staff with creating a list of candidates that meet the search criteria. The PERS Board discusses the list of

candidates and selects a group of finalists to interview. After conducting interviews with the finalists, the Board will select the best options for inclusion in MDC plan offerings.

Just as with investments and managers of the PERS plan, the PERS Board, with the assistance of Callan LLC, and the PERS staff, monitors the performance of investment options within MDC. The PERS Board assesses MDC's investment options based on both qualitative and quantitative factors found in the MDC Investment Policy Statement.

The Statement lists qualitative assessment factors such as a manager's adherence to his or her stated investment objectives, organizational structure and stability, and changes in investment policy. Quantitative factors include underperformance over a full market cycle, material changes to the risk profile, and portfolio characteristics that are inconsistent with expectations.

Based on the assessment of these factors, the Board can vote to place managers deemed to be underperforming on the MDC Watchlist. The Watchlist assists in monitoring performing funds relative to benchmarks and peers. Any fund that fails to outperform its benchmark or peer group median for the specified time period may be placed on the Watchlist for further review. Improvement relative to long-term objectives will allow for a fund's removal from the Watchlist while continued underperformance could prompt the Board to terminate the fund. The Board has the authority at any time to terminate or replace an investment option.

Creation of the Self-Directed Brokerage Account Option

The PERS Defined Contribution Committee created the Self-Directed Brokerage Account to provide MDC participants with the option to create a supplemental account within their MDC account with the ability to invest in mutual funds that are not available under MDC. Participants in Self-Directed Brokerage Accounts assume the responsibility, management, and risks associated with investing in these supplemental investment options.

In its February 2022 meeting, the PERS Board made amendments to MDC's Plan Document to add an option for MDC participants to open a Self-Directed Brokerage Account (SDBA).⁴⁵ According to PERS staff, the SDBA will give participants the freedom and responsibility of selecting and managing investments from a larger universe than available under MDC.⁴⁶ The SDBA will allow participants to customize their investments according to their personal preferences and financial needs.

SBDAs are supplemental accounts created within an MDC participant's existing account. MDC participants are not required to participate; however, if a member chooses to participate in the SDBA option, the individual will be assuming the responsibility,

⁴⁵ The MDC Plan Document defines Self-Directed Brokerage Account as "a brokerage window designed to allow participants to select investments outside of the Investment Options offered in the MDC plan."

⁴⁶ People are not yet able to invest in SDBA accounts. The Board voted to approve the option in February 2022, and gave PERS staff the authority to begin working on an agreement with Charles Schwab. As of April 7, 2022, no date has been set for the opening of SDBA accounts to the public.

management, and risks associated with investing. The amended MDC Plan Document states:

The Board, the Plan, and the State of Mississippi have no express or implied responsibility for the evaluation, selection, or monitoring of the continued offering of mutual funds available in the Self-Directed Brokerage Account.... Participation is optional for participants, and an additional fee may be charged for this service.

Once an MDC participant's account reaches an account balance of \$2,500, he or she may choose to participate in the SDBA. Similar to the traditional MDC plan, the state is not responsible for making contributions to the SDBA. Participants in SDBA must initially invest \$500 into their SBDA account and will be charged an annual recordkeeping fee of \$60 (payable in quarterly installments). The SDBA recordkeeping fee is in addition to any other fees associated with the traditional MDC plan. If the participant's MDC core investment balance was to fall below the required minimum of \$2,500, the participant would be prohibited from adding additional funds to the SDBA until the MDC core investments reach the required minimum of \$2,500 again. Additionally, all MDC deferrals must continue to be directed into one or more of the MDC core investment options.

SDBA investment options will initially be limited to mutual funds; however, as PERS continues to monitor the participation in MDC core investments and the SDBA, the Board may consider additional options at a later time.

As the third-party recordkeeper, Empower Retirement assists MDC participants in the management of their investments. Empower Retirement will continue to serve as the third-party administrator for MDC participants; however, Charles Schwab Corporation has been chosen as the brokerage account provider. Participants wishing to enroll in the SDBA will be directed to the Charles Schwab website to create an account. Fund tracking and performance will be tracked via the Charles Schwab Corporation platform. Funds will be monitored in accordance with the MDC Investment Policy Statement.

Appendix A: PERS Payroll Growth for FY 2016 through FY 2021

| Employer Group | Payroll for the Fiscal Year Ending June 30 (in thousands) † | | | | | | Percentage Change |
|---|---|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2016-2021 |
| State Agencies | \$1,099,584 | \$1,094,366 | \$1,052,316 | \$1,063,711 | \$1,114,860 | \$1,076,040 | 2.27% |
| State Universities | \$965,648 | \$963,344 | \$974,096 | \$1,006,586 | \$1,020,097 | \$996,451 | 9.83% |
| Public Schools | \$2,281,801 | \$2,264,502 | \$2,247,354 | \$2,315,173 | \$2,387,606 | \$2,403,327 | 6.73% |
| Community/Junior Colleges | \$295,021 | \$296,504 | \$294,536 | \$302,705 | \$299,391 | \$300,435 | 4.39% |
| Counties | \$462,828 | \$480,694 | \$493,220 | \$506,733 | \$520,773 | \$572,144 | 14.21% |
| Municipalities | \$570,531 | \$583,092 | \$587,108 | \$595,249 | \$600,156 | \$595,147 | 5.76% |
| Other Political Subdivisions | \$347,120 | \$355,728 | \$350,602 | \$354,758 | \$344,559 | \$302,533 | 1.77% |
| Total Payroll Reported to PERS | \$6,022,533 | \$6,038,230 | \$5,999,232 | \$6,144,915 | \$6,287,442 | \$6,246,077 | 3.71% |
| Actuarial Assumed Rate of PERS Plan Salary Growth | * | 3.25% | 3.25% | 3.00% | 3.00% | 2.65% | |
| Actual Rate of PERS Plan Salary Growth | * | 0.26% | -0.65% | 2.43% | 2.32% | -0.66% | |

† Payroll totals reported here have been rounded and may be different from the payroll figures reported on page 15.

* 2016 payroll data is for baseline comparisons only.

SOURCE: PERS annual valuations for years ending June 30, 2016, through June 30, 2021.

Appendix B: PERS Funding Policy Technical Appendix

Progress of the PERS plan’s funding policy is tracked through the use of three metrics:

- the funded ratio;
- cash flow as a percentage of assets; and,
- the actuarially determined contribution.

These metrics are tracked through a tiered method called the “signal light” approach, in which each level of the predefined metric tranches is assigned a color and a definition (Exhibit B1).

Exhibit B1: PERS Funding Policy “Signal Light” Levels and Definitions

| Statu | Definition |
|--------|---|
| Green | Plan passes metric and PERS funding goals and objectives are achieved. |
| Yellow | Plan passes metric but a warning is issued that negative experience may lead to failing status. |
| Red | Plan fails metric and PERS must consider contribution increases. |

SOURCE: PERS Board of Trustees policy.

The new funding policy, like its most recent predecessor, also includes a provision that serves as a safety net for the plan. If any one of the metrics is in red signal-light status in conjunction with the annual valuation report and the projection report, the actuary will determine and recommend to the Board for its consideration an employer contribution rate increase that is sufficient to get all three metrics back into green signal-light status.⁴⁷

Funded Ratio

The calculation of a plan’s funding level is an accounting measure that quantifies the plan’s ability to meet its projected future obligations, based on service already performed, with assets currently available.

This metric uses information from the 30-year projection reports developed by the plan’s actuaries to assess the plan’s funding level at a defined point in the future (for now, FY 2047).

⁴⁷ Any resulting contribution rate increase would be effective for July 1, 18 months following the completion of the associated projection report. The delay allows the state, counties, municipalities, and political subdivisions ample time to incorporate the increase into their operating budgets.

Exhibit B2 presents the funding policy’s defined channels for the funded ratio signal lights.

Exhibit B2: Signal Light Definitions for Funded Ratio

Funded ratio above 80% in 2047.

Funded ratio between 65% and 80% in 2047.

Funded ratio below 65% in 2047.

SOURCE: PERS Board of Trustees policy.

For the year ended on June 30, 2021, the projected funding ratio in FY 2047 is 93.5%, placing the PERS System in the green signal-light status.

As noted on page 21, one of the policy’s goals is to maintain an increasing trend in the funded ratio over the projection period with an ultimate goal of being 100% funded. However, the use of a 100% funded ratio can be seen differently when used as a target of financial health versus a goal of a pension’s funding policy.

Even with the assignment of being 80% funded as the threshold for green status, there is no industry statement or requirement for a pension plan’s funding level to be at 80% to be defined as “healthy.” Neither the Governmental Accounting Standards Board or the American Academy of Actuaries uses an 80% funded ratio to define a plan as financially healthy.

Cash Flow as a Percentage of Assets

The PERS funding policy defines “cash flow as a percentage of assets” as the difference between total contributions coming into the trust and the benefit payments made to retirees and beneficiaries withdrawn from the trust as a percentage of beginning year market value of assets. The formula for cash flow as a percentage of assets also can be defined as follows:

$$\frac{\text{Total Annual Contributions} - \text{Benefit Payments}^{48}}{\text{Beginning of Year Market Value of Assets}}$$

For example, computing the cash flow as a percentage of assets for FY 2021 (in thousands) is calculated as follows:

$$\frac{(1,764,555 - 3,096,299)}{27,827,394} \times 100 = -4.79\%$$

PERS testing of cash flow as a percentage of assets is not only a point-in-time comparison for the current fiscal year, but it also will be evaluated over the entirety of the period reviewed during the

⁴⁸ For purposes of this calculation, PEER included any refunds made to inactive members as benefit payments.

actuary's 30-year projection report, with the lowest current or projected cash flow as a percentage of assets used as the metric result.

Exhibit B3 defines signal-light statuses for cash flow as a percentage of assets.

Exhibit B3: Signal Light Definitions for Cash Flow as a Percentage of Assets

Net Cash Flow Percentage above -5.80% during the projection period.

Net Cash Flow Percentage between -5.80% and -7.55% during the projection period.

Net Cash Flow Percentage below -7.55% during the projection period.

NOTE: The targets utilized in this metric were adjusted during the April 2022 Board meeting to correspond with the approved changes in the plan's utilized investment return rate.

SOURCE: PERS Board of Trustees policy.

For the projection period, the lowest cash flow rate is -5.65% in FY 2035, which places the PERS plan in the green signal-light status for this metric.

The *Public Fund Survey* also provides data on cash flow as a percentage of assets. According to the November 2021 report, nearly all systems in the survey had a negative cash flow, and the median cash flow as a percentage of assets for plans in its survey, as of FY 2020, was -2.5%.⁴⁹ While this can be compared to the PERS result of -6.20% for FY 2020, it must also be noted that this is not a direct comparison. As discussed on page 36, PERS cash flow as a percentage of assets metric is not a point-in-time comparison (like the *Public Fund Survey*) but a measure over its full projection period, and the *Public Fund Survey* metric accounts for administrative expenses, while the PERS metric excludes administrative expenses from the calculation.

ADC/FCR Ratio

The ADC/FCR ratio is a comparison of the plan's actuarially determined contribution (ADC) and the plan's fixed contribution rate (FCR).

The plan's funding policy defines the ADC as the potential payment to the plan as determined by the actuary based on the following principal elements disclosed in the funding policy:

- actuarial cost method;
- asset valuation method; and,
- amortization method.

The purpose of the ADC is to provide a measure of the potential contribution rate necessary to allow the PERS plan to reach its

⁴⁹ The *Public Fund Survey* cash flow as a percentage of assets figure also includes administrative expenses within plan outflows in its methodology.

funding goals within a 30-year period under the prescribed methods outlined in the Board's funding policy.

The plan's funding policy defines the FCR as the employer contribution rate set by the Board.⁵⁰

The ADC/FCR ratio is determined by dividing the ADC calculated during the actuarial valuation for the fiscal year (typically released during the Board's December meeting) by the FCR set by the Board for the same period. The results of this calculation will be compared to the signal-light levels described in Exhibit B4.

Exhibit B4: Signal Light Definitions for Actuarially Determined Contribution/Fixed Contribution Rate

ADC/FCR ratio at or below 100% of fixed contribution rate at valuation date.

ADC/FCR ratio between 100% and 110% of fixed contribution rate at valuation date.

ADC/FCR ratio above 110% of fixed contribution rate at valuation date.

SOURCE: PERS Board of Trustees policy.

For the fiscal year ended on June 30, 2021, the plan's ADC/FCR ratio was 123.51%, placing it in red signal-light status.⁵¹ This indicates that the FCR set by the Board is smaller than the ADC, and the difference between these two figures, in the opinion of the plan's actuary, is outside the range established.

According to the PERS funding policy, if any one metric is in the red signal-light status in conjunction with the annual valuation report and the projection report, the actuary will determine and recommend to the Board an employer contribution rate increase to consider that is sufficient enough to get all three funding policy metrics back into the green-light status.

Amortization Method Assumptions for the Actuarially Determined Contribution

A plan's amortization period is the length of time necessary for a plan's unfunded liabilities to be paid if all actuarial assumptions are met over that period. Under the Board's prior funding policy, the amortization period fluctuated, which was not an uncommon practice among plans. To help align the plan with actuarial standards of practice, the PERS Board, as advised by its actuarial consultants, adopted a layered amortization⁵² for use in calculating the actuarially determined contribution.

⁵⁰ To help potentially limit annual fluctuations to members' and employers' contribution expenditures, the Board adopted funding policies that "fix" the employer contribution rate as a percentage of covered payroll.

⁵¹ For the year ended on June 30, 2021, the plan's ADC was 21.49% and the plan's FCR was 17.40%.

⁵² Layered amortization is the amortization of components of the UAAL over a separate fixed period as they emerge.

Under a layered amortization approach, the Board has elected to amortize the plan's existing unfunded actuarial accrued liability balance (as of June 30, 2018) over a closed⁵³ 30-year amortization period and any future changes to the unfunded balance (i.e., actuarial gains/losses, assumption changes, and plan changes) over a closed 25-year amortization period. These amortization assumption methods pertain to the calculation for the ADC only.

Actuaries must have a component of the funding model that can be adjusted to account for asset changes. The PERS Board, in attempting to maintain its goal of a stable contribution rate (17.40% as of July 1, 2019), has elected to continue using the plan's amortization period as this variable. As discussed previously, on page 24, the PERS plan's projected UAAL payment period, as of June 30, 2021, is 50.9 years.

Because the new amortization assumptions apply to the calculation of the ADC only, it is possible for the projected payment period of the plan to extend past the 30-year target included in the ADC calculation. To help ensure that the plan's projected payment period does not deviate too far from these assumptions, the Board's funding policy includes a metric that requires the comparison of the plan's fixed contribution rate to the ADC annually.

⁵³ A closed amortization period is a type of amortization period utilized by pension plans that results in the full amortization of specific items within a finite (or predefined) period (i.e., a traditional 30-year mortgage on a home).

Appendix C: PERS Investment Management Fees, FY 2021 and FY 2020

| CLASS | MANAGER | \$ FY 21 (thousands) | \$ FY 20 (thousands) |
|------------------|---|-------------------------|-------------------------|
| U.S. Equity | ARTISAN PARTNERS (LARGE CAP GROWTH) | 3,238 | 2,539 |
| U.S. Equity | DIMENSIONAL FUND ADVISORS (SMALL CAP VALUE) | 1,388 | 1,057 |
| U.S. Equity | EAGLE CAPITAL (LARGE CAP CORE) | 6,753 | 6,647 |
| U.S. Equity | NORTHERN TRUST (RUSSELL MID CAP - PASSIVE) | 28 | 22 |
| U.S. Equity | NORTHERN TRUST (S&P 500 - PASSIVE) | 264 | 225 |
| U.S. Equity | RIVERBRIDGE (SMALL CAP GROWTH) | 3,275 | 2,412 |
| U.S. Equity | WELLINGTON (MID CAP VALUE) | 2,345 | 1,951 |
| U.S. Equity | WELLINGTON (SMALL CAP CORE) | 2,739 | 2,106 |
| Non-U.S. Equity | ARROWSTREET CAPITAL (ALL COUNTRIES X-US) | 4,176 | 3,257 |
| Non-U.S. Equity | BAILLIE GIFFORD (ALL COUNTRIES X-US) | 3,500 | 2,820 |
| Non-U.S. Equity | FISHER INVESTMENTS (EMERGING MARKETS) | 4,492 | 3,328 |
| Non-U.S. Equity | LAZARD ASSET MANAGEMENT (EMERGING MARKETS) | 2,114 | 1,918 |
| Non-U.S. Equity | MARATHON (ALL COUNTRIES X-US) | 4,831 | 3,709 |
| Non-U.S. Equity | MONDRIAN (SMALL CAP DEVELOPED MARKETS) | 2,544 | 2,078 |
| Non-U.S. Equity | NORTHERN TRUST EAFE (DEVELOPED MARKETS - PASSIVE) | 218 | 179 |
| Non-U.S. Equity | PRINCIPAL GLOBAL (SMALL CAP INTERNATIONAL) | 1,926 | 1,415 |
| Debt Investments | ALLIANCEBERNSTEIN (GLOBAL FIXED INCOME) | 1,706 | 1,619 |
| Debt Investments | LOOMIS SAYLES (CORE PLUS) | 1,851 | 1,799 |
| Debt Investments | MANULIFE (CORE) | 926 | 862 |
| Debt Investments | NORTHERN TRUST (CORE - PASSIVE) | 118 | 110 |
| Debt Investments | PACIFIC INVESTMENT MANAGEMENT CO. (CORE) | 852 | 864 |
| Debt Investments | PACIFIC INVESTMENT MANAGEMENT CO. (GLOBAL) | 1,758 | 1,684 |
| Debt Investments | PRUDENTIAL (CORE PLUS) | 1,446 | 1,401 |
| Debt Investments | WELLINGTON (EMERGING MARKETS) | 2,810 | 2,581 |

| CLASS | MANAGER | \$ FY 21 (thousands) | \$ FY 20 (thousands) |
|----------------|--|-------------------------|-------------------------|
| Real Estate | AEW PARTNERS VI, LP* | - | - |
| Real Estate | AEW PARTNERS VII, LP | 150 | 153 |
| Real Estate | AEW PARTNERS VIII, LP | 267 | 360 |
| Real Estate | AEW Partners IX, LP — Hired Q4 FY 2020 | 723 | - |
| Real Estate | AG CORE PLUS FUND II LP* | - | - |
| Real Estate | AG CORE PLUS FUND III LP | 115 | 128 |
| Real Estate | AG CORE PLUS FUND IV LP | 661 | 635 |
| Real Estate | AG CORE PLUS VALUE X LP | 764 | 658 |
| Real Estate | CENTERSQUARE | 935 | 749 |
| Real Estate | COHEN & STEERS | 1,398 | 1,139 |
| Real Estate | HANCOCK TIMBER FUND | 1,064 | 1,103 |
| Real Estate | HEITMAN VALUE PARTNERS III LP | 43 | 125 |
| Real Estate | HEITMAN VALUE PARTNERS IV LP | 261 | 189 |
| Real Estate | INVESCO VALUE ADD FUND IV LP | 356 | 399 |
| Real Estate | INVESCO VALUE ADD FUND V LP | 610 | 408 |
| Real Estate | JP MORGAN STRATEGIC PROPERTY FUND | 3,312 | 3,689 |
| Real Estate | PRINCIPAL GLOBAL INVESTORS | 6,247 | 6,212 |
| Real Estate | TA REALTY ASSOCIATES FUND X LP | 68 | 16 |
| Real Estate | TA REALTY ASSOCIATES FUND XI LP | 1,023 | 792 |
| Real Estate | TA REALTY ASSOCIATES FUND XII LP | 864 | 1,017 |
| Real Estate | UBS TRUMBULL PROPERTY FUND | 1,900 | 2,443 |
| Real Estate | UBS TRUMBULL PROPERTY GROWTH & INCOME FUND | 2,202 | 2,179 |
| Real Estate | WESTBROOK X LP | 364 | 441 |
| Real Estate | WESTBROOK XI LP — Hired Q3 FY 2020 | 823 | - |
| Private Equity | GROSVENOR & PATHWAY CAPITAL MAN - PRIVATE EQUITY | 14,750 | 14,427 |
| Global Equity | ACADIAN | 3,817 | 3,220 |
| Global Equity | EPOCH | 5,230 | 4,261 |
| Global Equity | HARDING LOEVNER | 4,377 | 3,620 |
| Global Equity | LONGVIEW PARTNERS — Terminated Q2 FY 2021 | 2,281 | 4,097 |
| Global Equity | NORTHERN TRUST (GLOBAL - PASSIVE) — Hired Q2 FY 2021 | 127 | - |
| | | 110,030 | 99,043 |

* While PERS paid no investment management fees to this manager during FY 2021, PERS's relationship with this manager/investment is still ongoing.

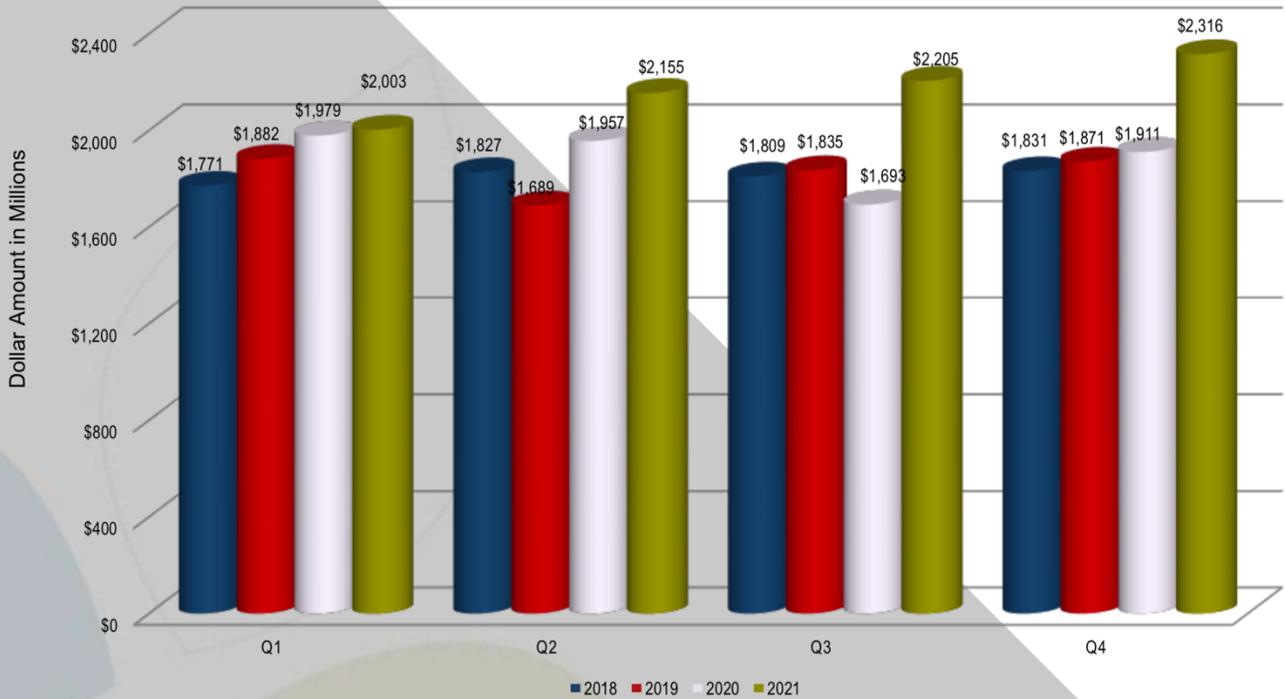
SOURCE: PERS staff and PERS FY 2021 and FY 2020 *Comprehensive Annual Financial Report*.

Appendix D: MDC End-of-Year Statistics as of June 30, 2021

MDC assets (four-year comparison)



Total Plan Assets by FYE



FOR PLAN SPONSOR USE ONLY. Not for Use With Plan Participants.

SOURCE: Mississippi Deferred Compensation Plan 2021 Fiscal Year Review.

Plan assets (by investment options)



| Fund Name | 7/1/2020 | 6/30/2021 |
|---|------------------|------------------|
| MDC Stable Value Account | \$554,068,683.10 | \$563,798,785.71 |
| Loomis Sayles Large Cap Growth Trust | \$297,779,862.88 | \$376,831,951.40 |
| NT S&P 500 Index NL-Tier 3 | \$281,100,399.48 | \$366,221,642.86 |
| PGI CIT Mid-Cap Equity Fund A | \$229,747,622.53 | \$298,228,608.76 |
| American Funds New Perspective R6 | \$69,555,468.27 | \$98,286,078.34 |
| Vanguard Windsor Adm | \$64,758,565.17 | \$91,924,590.11 |
| International Growth Equity Trust | \$69,693,466.03 | \$86,847,660.31 |
| Wellington CIF II Small Cap Opps | \$31,539,764.32 | \$47,568,636.21 |
| Vanguard Target Retirement Inc Instl | \$41,432,812.95 | \$46,653,264.65 |
| Voya Intermediate Bond R6 | \$39,916,892.90 | \$39,902,043.25 |
| BlackRock Money Market | \$38,964,702.85 | \$37,996,386.75 |
| Vanguard Instl Trgt Retire 2025 Instl | \$25,131,788.07 | \$36,156,482.15 |
| NT Aggregate Bond Index NL-Tier 3 | \$30,288,200.58 | \$34,706,322.32 |
| Vanguard Instl Trgt Retire 2030 Instl | \$22,143,028.54 | \$29,616,529.71 |
| Vanguard Instl Trgt Retire 2020 Instl | \$22,101,554.55 | \$25,378,047.13 |
| Vanguard Instl Trgt Retire 2035 Instl | \$16,188,133.20 | \$23,249,994.99 |
| NT R2000 Index Fund - DC - NL - Tier 4 | \$9,624,049.85 | \$17,978,970.53 |
| NT TIPS Index Fund - NL - Tier 3 | \$11,102,363.29 | \$16,351,748.29 |
| Vanguard Instl Trgt Retire 2040 Instl | \$11,514,923.25 | \$15,019,702.23 |
| Vanguard Instl Trgt Retire 2015 Instl | \$12,781,771.93 | \$14,471,475.01 |
| Vanguard Instl Trgt Retire 2045 Instl | \$7,896,160.42 | \$12,175,283.08 |
| NT EAFE Index Fund - DC - NL - Tier 4 | \$6,085,522.86 | \$11,814,530.64 |
| BNY Mellon EB US Real Estate Securities | \$6,717,525.93 | \$8,352,787.94 |
| Vanguard Instl Trgt Retire 2050 Instl | \$4,750,660.14 | \$7,459,951.91 |
| Vanguard Instl Trgt Retire 2055 Instl | \$3,070,498.95 | \$4,262,033.17 |
| Vanguard Instl Trgt Retire 2060 Instl | \$1,366,866.17 | \$2,237,344.35 |
| Vanguard Instl Trgt Retire 2065 Instl | \$1,582,582.48 | \$2,061,310.13 |
| CONSECO Life Insurance | \$0.00 | \$36.00 |
| RBC Small Cap Core I | \$5.43 | \$5.29 |
| BNYH Mellon PE NSL US MdCp Opp Val Eq | \$14.77 | \$0.00 |

FOR PLAN SPONSOR USE ONLY. Not for Use With Plan Participants.

SOURCE: Mississippi Deferred Compensation Plan 2021 Fiscal Year Review.

Participant totals (by employer type)



| Employer Type | 6/30/2018 | 6/30/2019 | 6/30/2020 | 6/30/2021 | % of population 2021 | 2021 vs 2020 Change |
|-------------------------------------|-----------|-----------|-----------|-----------|----------------------|---------------------|
| <i>Public Schools</i> | 13,999 | 13,950 | 13,899 | 13,689 | 35% | -1.5% |
| <i>State Agencies</i> | 10,673 | 10,556 | 10,799 | 10,665 | 27% | -1.2% |
| <i>Other Political Subdivisions</i> | 4,323 | 4,600 | 4,598 | 4,415 | 11% | -4.0% |
| <i>Municipalities</i> | 3,972 | 4,155 | 4,359 | 4,194 | 11% | -3.8% |
| <i>Counties</i> | 2,298 | 2,428 | 2,500 | 2,477 | 6% | -0.9% |
| <i>Community/Junior College</i> | 2,104 | 2,112 | 2,128 | 2,110 | 5% | -0.8% |
| <i>State Universities</i> | 1,149 | 1,207 | 1,234 | 1,266 | 3% | 2.6% |
| <i>Beneficiaries</i> | 219 | 275 | 270 | 140 | 0.4% | -48.1% |

*Medicaid providers and UMMC are labelled as state agencies

SOURCE: Mississippi Deferred Compensation Plan 2021 Fiscal Year Review.

Agency Response



Providing Benefits for Life

April 28, 2022

Mr. Ted Booth
Executive Director
Joint Committee on Performance Evaluation and Expenditure Review
Woolfolk Building, Suite 301-A
501 North West St.
Jackson, MS 39201

Dear Mr. Booth:

Thank you for the opportunity to review the draft of the PEER Report titled *2021 Update on Financial Soundness of the Public Employees' Retirement System (PERS)*.

As discussed with PEER staff, although we may not have verified every number and the explanation of certain aspects could vary, we understand this is a PEER document and recognize the diligence and effort expended in completing the assignment. We provided minor feedback, but overall, we feel this is a good report and, in many ways, reconciles with our information. The PEER analysis also rightfully calls attention to areas that should continue to be under review and analysis in the best interest of the membership and System.

We respect the results of your review, and we appreciate your continued support of PERS. Please contact me at 601-359-2241 if you need further information. Thank you.

Sincerely,

H. Ray Higgins, Jr.
Executive Director

| | | | | | | |
|--|---------------------------|--|--|--|---|--|
| H. Ray Higgins, Jr. <i>Executive Director</i> | <i>Board of Trustees:</i> | Randy D. McCoy <i>Retirees, Chair</i> | Bill Benson <i>County Employees, Vice Chair</i> | Kelly Breland <i>State Employees</i> | Lee Childress <i>Public Schools Community/Jr. Colleges</i> | George Dale <i>Retirees</i> |
| | | Chris Howard <i>State Employees</i> | Chris Graham <i>Gubernatorial Appointee</i> | Kimberly Hanna <i>Municipal Employees</i> | David McRae <i>State Treasurer</i> | Brian Rutledge <i>Institutions of Higher Learning Employees</i> |

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